THE LANCET.

VOL. II.] LONDON, SATURDAY, JULY 4, 1840. [1839-40.

LECTURES BY M. DE BLAINVILLE ON COMPARATIVE OSTEOLOGY.

THE

COMPARATIVE OSTEOGRAPHY

OF THE

SKELETON AND DENTAR SYSTEM

IN THE FIVE CLASSES OF

VERTEBRAL ANIMALS,

RECENT AND FOSSIL.

BY M. H. M. DUCROTAY DE BLAINVILLE,

Member of the Institute of France.

WITH GRAPHIC DELINEATIONS BY M. WERNER;

EDITED (FROM THE FRENCH) AND

ADDITIONALLY ILLUSTRATED

WITH NUMEROUS NOTES, OBSERVATIONS,

AND DRAWINGS,

BY ROBERT KNOX, M.D.,

Edinburgh; Corresponding Member of the French Academy of Medicine, &c. &c.

THE dentar system of the Aye-Aye (*L. Psilodactylus*, Linn.) is, in fact, so abnormal, that many of the different kinds of the teeth are entirely wanting, at least in the very aged animal, the only state in which we have seen them.

	Upper Jaw.	Lower Jaw.
Incisors	2.....	2
Canines	—.....	—
Molars	8.....	6
	10	8
		10
Total		18

Thus we have only one pair of incisives, both in the upper and lower jaw, no canines in either jaw, and only one *anterior* molar on each side of the upper, and three molars (the *principal* and two *posterior*) on each side of both jaws.

In the upper jaw, the incisives resemble slightly those of the genus Propithecus, of Bennett; but they are much stronger in the Aye-Aye, more arched, flatter, more compressed, converging, and worn by use into the form of a rounded chisel, in such a manner that the *anterior* (*external*) edge is the only cutting one, although the surface is almost equally surrounded with enamel. After a ridge of considerable length, which occupies not only the remainder of the intermaxillary bone, but nearly one-half the maxillary, a series of four contiguous molars occur. The first (the only *anterior* molar) extremely small, has only one root, and its corona is mammilliary-shaped. The principal and succeeding molar, of nearly equal size, have their corona so much worn by use, that it is difficult to make out clearly their true characters; nevertheless, we may observe that they appear to have had two lobes or external tubercles, for the root has two external fangs, and a tubercle of larger dimensions, supported, in fact, on a larger fang. Finally, the last *posterior* molar, evidently much smaller than the two we have just spoken of, oval, oblique, appears to have had only one external denticulation, and one tubercle or heel.

In the lower jaw the dentar system is very similar to that of the upper. The incisives are only a little larger, more compressed, and, in general, stronger; its corona is, in like manner, worn into the form of a grooved chisel, the ivory part of the tooth being entirely surrounded with the enamel, which forms the sharp anterior edge. After a ridge, slightly less elongated than in the upper jaw, we meet with only three molars closely arranged together, and whose corona is oval-shaped; the *principal* (which is the first) is a little oblong, and has two double roots, transverse, very distinct; the second tooth (*first posterior molar*) rounder, with only one large conical root; as also the third, and last of the series, which is smaller, unequally square, with rounded angles.

Notwithstanding the advanced state of the effects of trituration on the dentar system of the only specimen of the Aye-Aye which has come under my observation, we can, nevertheless, readily perceive these analogies with the Makis; in the incisives with the Propithecus; in the molars with the Maki,

of Milius; but especially in a remarkable anomaly pervading the entire dentar system, having the deepest influence possible on the general form of the jaws.

The dentar system in the Galeopitheci, although much more normal than in the Aye-Aye, is, nevertheless, perhaps still more anomalous. With regard to number, the system differs slightly from that of the genus Indri; there are sixteen teeth in the upper, and eighteen in the lower jaw, making thirty-four teeth in all.*

Fig. 51.

L. Volans.

Anterior portion of the lower jaw, supporting six teeth, viewed from above, showing the remarkable comb-shaped teeth in these animals.

Commencing with the first superior maxillary, and considering that tooth which crosses it from before backwards as the inferior canine, the formula appears to stand thus:—

	Upper Jaw.	Lower Jaw.
Incisors	4.....	6
Canines	2.....	2
Molars	10.....	10
	—	—
	16	18
		16
		—
Total		34

giving three pairs of incisors to the lower jaw, as we shall presently find to be almost constantly the number in the Carnivora.

The two superior incisives are altogether lateral, leaving a large interspace of the intermaxillary bone without teeth; both are very much compressed, but very different from each other in other respects: the first being palmated with three or four obtuse, minute denticulations, decreasing from before backwards; the second, considerably larger, has two fangs, with a coronal median point furnished at its base with denticulations more numerous posteriorly than anteriorly. The canine (or first tooth, supported by the maxillary bone) has absolutely the same form as the second incisive, from which and the first molar it is nearly equidistant. The only *anterior* molar which I admit of in the formula, and which appears to me to have been considered as the third of the true Makis, is triquetral; the angle anteriorly, the base posteriorly, the external side cutting and roughened with four or five acute points, with a posterior tubercle within the last point.

The *principal* molar is nearly trihedral and equilateral, with a point at each angle; the three *posterior* molars have nearly the same form, but the anterior and posterior points are subdivided into two, and the central cavity of the corona between the three points is extremely well marked; so that these teeth are much more insectivorous than those of the true Makis.

In the lower jaw the insectivorous character of the teeth is much more strongly marked. The two first pairs of incisives are largely palmated, nearly horizontal, and deeply grooved into seven denticulations; for the first, the inner and outer of these denticles are the thickest; in the second pair the denticulations are nine in number; the six inner ones being the most slender, so as to resemble little combs.

The third incisive, less terminal on its cutting margin, consists of five denticulations, decreasing in size from the first to the last. The canine strongly resembles that of the upper jaw, though, perhaps, flatter and less cutting. The same remarks apply to the *anterior* molar, whose external edge is armed with minute denticulations. The *principal* is nearly in every respect like the *anterior* molar, only a little less extended, thicker, and having the denticulations, and especially the tubercle, subdivided. The three *posterior* molars are in a similar condition, of a triquetral form, each angle being elevated into a tubercle. The internal tubercles are subdivided, that of the anterior tooth (first posterior molar) into two, that of the posterior into three denticulations.

Previously to examining into the changes which age produces in the dentar system of the Makis, we have still some remarks to make on the roots of the teeth, and on the alveoli in the upper and lower jaw.

The roots, and, consequently, the alveoli of the incisives, are always single. In all the species, with the exception of the second superior in the genus Galeopithecus, they are commonly very small, excepting in the Aye-Aye, where the fang of these teeth is much longer than the corona, more or less curved, and of the same diameter. In the

* Mr. Waterhouse has lately added a new species, under the name of G. Philippensis, which appears to possess some peculiarities in the form of its teeth. According to Mr. Waterhouse, there are four species in this genus, viz., G. Volans (Pall.), G. Temminchii, G. Philippensis, and the G. Macrurus. M. De Blainville thinks that there are still some questions respecting these species open for the consideration of naturalists.

lower jaw, these fangs extend as far as the centre of the ascending branch.

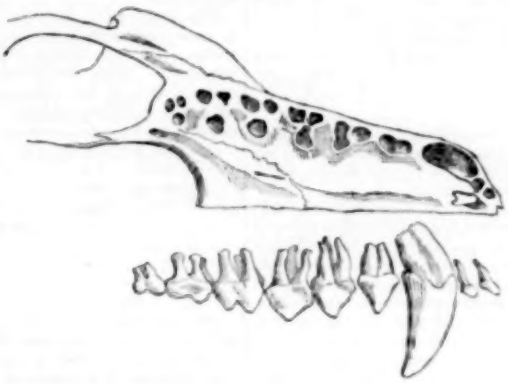
The roots and alveoli of the canines are, in like manner, always single, with the exception again of the Galeopithecus, where they are double.

The superior anterior molars have generally two fangs, placed one before the other, and perfectly united, which causes two alveolar cavities, more or less combined, and assuming the form of a keyhole. The second and third anterior molars, as well as the principal and the two posterior, have always three separate fangs, which are conical and rather short. The fangs are two external and one internal, which produces five alveolar groups of three openings, of which the largest is the third, and the smallest the fifth.

In the lower jaw, on the contrary, all the molars,—with the exception of the first, which is more or less canine-shaped, and has only one conical and compressed fang, giving rise to an alveolar cavity slightly keyhole-shaped,—have two pointed fangs, a little longer than those of the upper jaw, and unequal, the alveoli, consequently, are grouped into pairs, the two central being the largest, the terminal the smallest.

What I have just written, and caused to be represented in our plate, of the odontography, is drawn from the Maki Ruber and Maki Vari; but we can readily perceive that in each distinct species we shall find equally striking specific differences. Excepting, however, in relative proportions, the differences are not great in the ascending scale; thus, in the Loris Tardigradus and

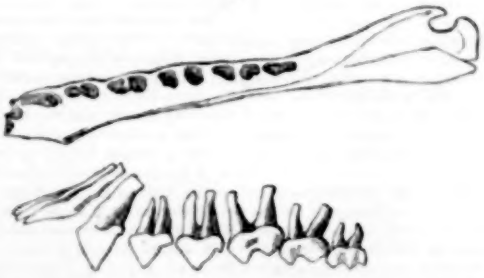
Fig. 52.



L. Ruber.

Upper jaw, right side, dentar aspect, with the teeth removed, in order to show the alveolar cavities and the fangs of the teeth.

Fig. 53.



L. Ruber.

Lower jaw, right side, dentar aspect, with the teeth removed, in order to show the alveolar cavities and the fangs of the teeth.

Loris Gracilis, the arrangement of the dentar fangs and their alveolar cavities is similar to the Makis; the teeth themselves, however, being a little closer, and the double alveoli of the *anterior* molars more oblique. In the Tarsier the arrangement is slightly different, the *principal* and first *posterior* molar of the upper jaw having their external and internal sides of equal size (i. e., of an oblong square, instead of a triangle); the internal fang and its alveoli are subdivided. In the lower jaw the *anterior* molar has only one fang and one alveolus, whilst the other molars have their fangs larger and more transverse.

In the Galagos, the arrangement of the fangs of the teeth and their alveoli returns to the type of the Makis.

I think that, with the exception of *number* and relative proportions, we may say the same in respect to the Indris; only as the three largest molars (*principal* and *two posterior*) in the upper jaw are more square, and the corona less triquetral, we can perceive that the internal fang and its alveolar cavity must be much larger; and in the lower jaw, the two fangs and their alveoli much more transverse.

But in the two anomalous genera which terminate the series of the Lemurs, there are very evident differences in the relations which now engage our attention.

First, in the Aye-Aye, besides the remarkable difference in the number and in the continuity of the series, which has been already pointed out, we must not fail to observe the enormous size of the fangs of the superior incisives, and more especially of the inferior; and the fact, that the roots do not decrease or become pointed, as is usual with these teeth. Then, the alveoli in the upper jaw, proportional in their size to the corresponding teeth, are developed not only in the intermaxillary bones, but also in the superior maxillary, nearly to the entire extent of the bodies of these bones. In the lower jaw they occupy all the horizontal branch, curving up in a circular form nearly as far as the coronoid process, having an oval-shaped and vertical opening almost at the extremity of the jaw.

In respect to the molar teeth, the fangs are excessively short; more so, however, in the lower than in the upper jaw: their alveolar cavities are also very shallow. The two largest teeth in the upper jaw have three fangs; the external two being very short, and the two anterior in the lower jaw have two fangs, as usual.

In the Galeopithecus, the anomalous dentar system persists, both with regard to the fangs and their alveolar cavities. The most remarkable peculiarity which they present, in this respect, is, that the second incisive and the canine of the upper jaw have two compressed, diverging fangs, and the same number of alveoli. With respect to the five molar teeth, their roots are composed of three fangs, as in the Makis.

In the lower jaw, the incisives, although very large in their fangs, and comb-shaped in their corona, are single, large, and depressed; but the canine have two fangs, as in the upper jaw. The three succeeding teeth in the series are similar to the canine, the two fangs resembling each other more and more; but in the two last the fangs are perfectly similar and united, and there is but one alveolar cavity for the two teeth, there being two cavities for the three anterior molars.

The Differences produced by Age.

It now remains for us to speak of the changes which age produces on the dentar system of the Lemurs: unfortunately, the materials which I have had at my disposal to treat of on this subject, have not been so numerous as for the American and African Monkeys.

The *first* Epoch, according to my opinion, is that state which I observed in a very young specimen of the Maki Cendré (L. Sciureus). There are in this case five teeth on each side of the upper jaw, and six on each side of the lower jaw; the formula will stand thus:—

	Upper Jaw.	Lower Jaw.
Incisors	4	4
Canines	2	2
Molars	4	6
	10	12
		10
Total		22

The superior incisives are extremely small, and the inferior long and sloping, as in the adult state; but this is not altogether the case with the first maxillary or canines. In the upper jaw, this tooth (canine) is subtriquetral and slightly compressed, with an angular corona, and a slightly elevated single tubercle, altogether strongly resembling an anterior molar. In the lower jaw it is a still smaller tooth, not more than half the length of the external incisives, and placed in the same manner (lying parallel) with them.

The first and only *anterior* superior molar is perfectly triquetral, with one tubercle and three fangs; whilst in the lower jaw there are two more simple anterior molars: the first is a little stronger, and more elevated than the other; and the latter is pressed, as it were, against the principal molar.

The *principal* molar, as well in the upper as in the lower jaw, has a triangular-shaped corona with an indistinct tubercle, and a fang elongated at each angle; thus forming three fangs, two external and one internal.

A *second* Epoch, I have observed in the head of a young Propithecus of Bennett (*Propitheque a Diademe, Lichanotus Diadema*, Linn.). The dentar formula will stand thus:—

	Upper Jaw.	Lower Jaw.
Incisors	4	4
Canines	2	2
Molars	6	6
	12	12
		12
Total		24

In the upper jaw the canine is small, but sufficiently distinct; the second *anterior* molar triangular, with three tubercles and three fangs,—one at each angle or point. But we have already two pairs of permanent incisives half cut, together with a first permanent molar just appearing above the soft parts. In the lower jaw we find also six deciduous teeth, two long sloping incisives resembling slightly those of the genus Cochons (*Pig. Sus*, Linn., &c.); an extremely small tooth in the situation of the canine, *baton*-shaped, oblique, and having a cylindrical fang forming a sort of handle to the *baton*; a first anterior molar, more elevated than the others, with one tubercle and one fang; a second molar, similar in shape, but much smaller; and, lastly, a principal molar, the largest of the set, triquetral, with three fangs; and, moreover, two incisives, and the principal molar of the permanent set, as described above.

A *third* Epoch is shown in the head of a Lori Grele (*L. Gracilis*, Linn.), whose dentar formula stands thus:—

	Upper Jaw.	Lower Jaw.
Incisors	4	4
Canines	2	2
Molars	12	10
	18	16
		18
Total		34

In both jaws all the teeth are permanent, with the exception, in the upper, of the first anterior molars, and, in the lower, of the principal and one anterior molar which belong to the deciduous set, and have to be cast.

A *fourth* Epoch I have observed in the head of the Indri (*Lemur Indri*, Linn.), whose dentar formula stands thus:—

	Upper Jaw.	Lower Jaw.
Incisors	4	4
Canines	2	2
Molars	8	8
	14	14
		14
Total		28

The examination of the teeth in this specimen, proves that the replacement of the canines takes place rather late, and that, at the same time, the last molars in both jaws have scarcely cut; the canines in the upper jaw are at this period deciduous and extremely small, and bear no resemblance to those which are to replace them.

I ought still to mention a *fifth* state or Epoch of the dentition which I observed in a young specimen of the Indri a longue queue (*Indri a Bourre*, *Lich. Laniger*, Linn., *Maki Parine*, Buff.), in which the canines, particularly those of the lower jaw, have appeared, although the last molar is not at all visible, and in which the first deciduous incisives are not cast: this is, in all probability, an anomalous case.

The dentition in the Galeopitheci, I have, unfortunately, not been able to study very deeply; but I have observed a rather important epoch, in which all the deciduous teeth were present with the three posterior molars. We have, in the first place, been able to ascertain satisfactorily, that in the upper jaw the number of teeth in the young animal, i.e. deciduous teeth, is the same as that of the permanent, which is not the case with regard to the lower jaw, in which there are only five at that epoch instead of six, and it appears to us to be the canine which is wanting. Another fact is, that all the permanent teeth resemble, almost precisely, those which they replace: thus, for the comb-shaped teeth, the number of the denticles is absolutely the same; a difference is observed in the first incisive above, but this difference is sufficiently remarkable; for, simple at the young epoch, the permanent tooth replacing it has three or four lobes according to the species.

Effects of Trituration on the Teeth.

In respect to the changes which the permanent teeth of the Makis show, it appears to me that the wearing down first shows itself on the posterior molars, next on the superior incisives, and either never reaches, or at least very late, the inferior incisives, which remain sharp for a very long time: the purpose which these teeth appear to serve is that of true combs for polishing the hair of their body.

I have observed that the loss of the teeth begins by the first *anterior* molars, as is so commonly the case in the Carnivora, but I am unacquainted with the further progressive changes.

Bone of the Penis (*Endercstea*).

All the Lemurs or Makis have, assuredly, a bone in the penis; but I have only observed it, particularly, in a few species. In the Maki Macoco we can perceive that it has a strong resemblance in its general forms, with that of the Simiadæ which have this bone, and of the Sapajous; it is only a little shorter.

In respect to the bone of the penis in the Maki de Milias, it is particularly remarkable on account of bifurcating at its distal extremity.

COURSE OF LECTURES
ON THE
DISEASES OF THE EYE,
Delivered in 1839-40,
AT THE
ROYAL SCHOOL OF ANATOMY AND MEDICINE,
MANCHESTER,
By JOHN WALKER, Esq., Surgeon.

LECTURE X.

DISEASES OF THE CORNEA (*continued*).

HAVING, in my last lecture, given you an account of inflammation of the different textures of the cornea, I now proceed to speak of some of the results of that morbid action, and I shall first allude to *abscess of the cornea*.

During the progress of inflammation of the cornea, it occasionally happens that pus is deposited in its lamellated texture. This may occur in any portion; but the matter is most frequently seen at its lower part, to which it has a tendency to gravitate, where it has a certain resemblance to the white appearance observed at the roots of the nails, and hence it is termed *onyx* or *unguis*. In some instances, however, the pus is diffused irregularly over a considerable portion of the lamellated texture, and is so tenacious, that it remains adherent to that part in which it was originally deposited.

The puriform secretion, after a certain time, is either removed by the process of absorption, or ulceration occurs, and then it finds an exit through the substance of the cornea, either externally or into the anterior chamber. In the latter case, the matter will be certain to fall to the bottom, and give rise to what is termed *spurious hypopion*, in contra-distinction to the genuine hypopion, which is a puriform secretion from the capsule of the aqueous humour, or from the surface of the iris.

As to the treatment of abscess of the cornea, there is seldom much good done by interference. Some writers recommend a puncture in the site of the abscess, with a view to permit the escape of the pus. I have tried this operation in a few instances, but have never seen any beneficial results therefrom, the matter being generally too tenacious and adherent to the texture of the cornea to allow of its being discharged. Reduction of the inflammation is the point at which we should aim; and this being attained, the matter will be gradually absorbed, although, if there have been ulceration to any extent, there will probably be considerable opacity resulting. Indeed, if the affection have been severe or extensive, it must happen that vision will be destroyed from the disorganised condition of the cornea that is sure to ensue.

The next subject to which I have to request your attention, is *ulceration of the cornea*.

An ulcer is always the result of inflammation, although there is frequently no perceptible vascularity of the cornea present; but it is very common to find a considerable amount of conjunctivitis, or even of sclerotitis, when there is any abrasion of the corneal surface.

Ulceration may be confined to the conjunctival surface, or it may penetrate into the lamellated texture. In the former case, it is of course superficial; but, nevertheless, it may extend over a considerable space. When ulceration attacks the lamellated tissue, it often penetrates deeply into its substance, broad at its outer surface, narrowing as it proceeds internally, and therefore of a conical or funnel shape. In cases where the ulceration occurs around the margin of the cornea, it is usually of a crescentic form, and has often the appearance of a deep trough.

The penetrating ulcer is the most dangerous to vision. In its course, it perforates layer after layer, until it arrives at the serous-membrane lining the anterior chamber. When it has proceeded to this point, the ulcerative process is, for a time, often suspended, the membrane of the aqueous humour is protruded through the aperture of the cornea, and comes forward, appearing like a little vesicle in the centre of the ulcer, and giving rise to the condition termed *hernia corneæ*. After a certain interval, it frequently happens that the membrane of the aqueous humour is likewise perforated. In this event, the humour itself is evacuated, either wholly or in part, the iris falls forward into the opening of the cornea, and blocks it up, constituting *prolapsus iridis*, and thus a further evacuation of the humour is prevented. By-and-bye, adhesion takes place between the ulcerated surface of the cornea and the strangulated portion of the iris, the ulcer heals, and the portion of iris is permanently embedded in the substance of the cornea. This produces an appearance which has been termed *myocephalon*, since the portion of iris somewhat resembles the head of a fly stuck into the cornea. In this case, the iris being drawn into the ulcerated opening, the pupil will generally be irregular in form, and sometimes even completely obscured by the opacity which remains after the healing process is completed.

The phenomena I have described are frequently witnessed as consequences of ulceration of the cornea. The ulcer, however, does not always penetrate the anterior chamber, even when it has proceeded so far as to admit of the protrusion of the membrane of the aqueous humour. The

restorative process may be commenced even at this crisis, new matter may be deposited in the cavity of the ulcer, and eventually cicatrisation be completed. In some instances the matter deposited may be equally transparent with the original structure, but more frequently it is decidedly opaque, and remains so permanently.

On the other hand, an ulcer will not always take on the healing process, when a portion of the iris has got entangled within it. Nor is it always necessary, in my opinion, that the membrane of the aqueous humour should be perforated before the iris is protruded into the aperture of the cornea. In many instances, I believe, the membrane of the aqueous humour is pushed forward, particularly when the ulcer is large, becomes elongated, and forms a sac in which a portion of the iris lodges; and in this way large staphylomatous projections are sometimes formed which contain a considerable portion of the iris, and frequently of the choroid, as well as, probably, the aqueous humour. In such an event, the eye is certain to be permanently disorganised. In other instances, the discharge of the aqueous is followed by that of the crystalline humour, and a portion also of the vitreous, and then there is ultimately collapse of the globe.

Sometimes, as I have remarked, ulcers will become cicatrised without leaving any opacity of the cornea. An example of this is often noticed in the condition named *dimple*. In this case there is a minute cup-like depression, which appears as if a small portion had been chiselled out, the surface remaining perfectly smooth and transparent. This state usually continues for a considerable period, and in some instances it seems to be permanent.

After deep-seated ulceration, which has been succeeded by protrusion of the membrane of the aqueous humour, it occasionally happens that a small opening remains, through which the aqueous humour oozes, constituting what is termed *fistula of the cornea*. This condition may also last for some time, but is generally remedied by the frequent application of the nitrate of silver to the edges of the aperture.

The treatment of ulcers of the cornea is very simple. Seeing that ulceration is but a result of inflammatory action, it follows that the treatment of the latter condition is the one which is appropriate for the former. In the slighter cases, it may truly be said, remove the inflammation, and leave the ulceration to itself. Now, I have before given you my views as to the right mode of treating inflammation both of the conjunctiva and of the cornea; and, in the vast majority of cases, this is precisely the condition against which you have to contend. Almost invariably, there is well-marked conjunctival inflammation present during the existence of ulceration of the cornea. In many cases, too, vessels are distinctly seen to run from the conjunctiva on to the cornea, and particularly to its ulcerated portion. The vessels which are traceable to an ulcer of the cornea, are often spoken of as if their office were to repair the breach of surface that exists. I confess that I do not regard them in that light; for we often notice, as I have before stated, extreme vascularity where no ulceration exists, and I always find that the most efficient mode of treating one of these ulcers is to destroy the inordinate vascularity upon which it depends; and the healing of the ulcer in such cases will be effected by the interstitial and colourless vessels.

The cornea is peculiarly liable, under certain circumstances, to fall into the ulcerated state when it is the seat of inflammation; but ulceration does not usually ensue if the individual be in a condition of good general health. There is almost invariably something faulty in the state of the system which predisposes to it; and we find ulceration in its worst form most frequently occurs in infancy, in delicate children, and in old and weakly persons. "The subjects of ulcer of the cornea (says Dr. Mackenzie), and especially of the deep ulcer, are rarely robust, or in a good state of general health. On the contrary, they frequently present the indubitable signs of great weakness, and sometimes even of inanition. In emaciated infants, particularly, I have repeatedly seen the cornea of one or both eyes become thin and prominent, and give way without much and even without any apparent inflammation. In 1832, I saw several instances of the same destructive ulceration of the cornea occurring after malignant cholera. I have sometimes (he continues) been led to compare the state of such eyes to those of the dogs in Magendie's experiments, which being fed, or rather starved, on white sugar and distilled water, died from exhaustion; their death being preceded by perforating ulcer of the cornea, and evacuation of the humours." In the view entertained on this point by Dr. Mackenzie, I entirely coincide, however I may be inclined to differ with him as respects the treatment.

Under these circumstances, then, ulceration of the cornea being presumptive evidence of a state of constitutional debility, you will see the impropriety of resorting to the lowering treatment so generally recommended. The local stimulant treatment, before pointed out, is the one which can be alone employed, in most cases, with a probability of success, for depletion must certainly add to debility, and this again to extension of the morbid action. Where the ulcer is of some size and penetrating, it will be proper to apply the pencil of nitrate of silver to its edges. But, usually, it is

much better to apply it to the conjunctival surface of the lower lid, as by so doing you are more likely to destroy the morbid action which gives rise to the ulceration; and, at the same time, a portion of the dissolved nitrate is carried over and in contact with the ulcer, and produces most of the beneficial effects of its direct application to the abraded surface.

This treatment, efficiently employed by the surgeon himself, produces more real benefit than all the applications he might give to the patient with orders to inject upon, or otherwise apply to, the surface of the eye. Some surgeons entertain a most unfounded aversion to the employment of nitrate of silver, even when ulceration exists. Dr. Jacob imagines that its use is sometimes productive of a dark opaque speck upon the cornea, which is indelible. I can only say that I have never seen such a result. Possibly Dr. J. may have mistaken the dark spot, which is left by a portion of the iris becoming adherent to the ulcerated surface of the cornea, for the indelible stain of which he speaks.

The other local means which I have advised for the treatment of chronic or indolent ophthalmia are also to be used. If the ulcer be situated near the centre of the cornea, and seem likely to penetrate the anterior chamber, it will be proper, in addition, to apply the extract of belladonna to the eyebrows and lids, with a view of keeping the pupil dilated, and the free margin of the iris from falling into the perforation. If, on the contrary, the ulcer be situated at the margin of the cornea, then it will evidently be better to omit the application of the belladonna.

When a portion of the iris has passed through the aperture of the cornea, and forms a prolapsus of some size, it will be proper to touch the protruded part occasionally with the caustic pencil; or, if it be very large, it may in some instances be necessary to snip it off with scissors, so as completely to remove what must otherwise be a source of irritation.

For the internal treatment you will do well to employ tonics, such as the sulphate of quina, and the more so if the patient be of a strumous diathesis. Attention to the state of the alimentary canal should likewise be paid.

Nearly allied to ulceration is *sloughing of the cornea*.

The texture of the cornea, you will remember, is made up of a considerable number of lamellæ, which are united together by means of cellular membrane. This latter tissue is particularly liable to fall into a sloughy condition, when it is the seat of inflammation, and hence, no doubt, the reason why the cornea is so susceptible to this species of disorganisation.

When sloughing of the cornea is witnessed, it is usually as a result of the more violent forms of ophthalmia, such as the purulent and the variolous. Like the ulcerative process, it is but seldom observed, however, except in persons of a delicate constitution, or in such as have been enfeebled by previous disease.

Although there is usually an intense degree of conjunctivitis, and even of chemosis, found to accompany a sloughy condition of the cornea, yet I have known many instances in which chemosis was not present, and the vascularity of the conjunctiva not excessive. In such cases, the cornea itself has appeared to me to be the primary seat of disease. I have also witnessed the same appearance after injury of the cornea.

Sloughing may occur in various degrees of intensity. Sometimes ulcers assume a sloughy aspect, and portions of the excavated surface are thrown off. In other instances, the whole of the cornea puts on a ragged, flocculent appearance, having a dirty white or yellowish colour, and considerable portions exfoliate, and sooner or later the humours are discharged.

Seeing that this condition of the cornea, when it exists to any extent, does not admit of remedial treatment, we must endeavour to preserve the form of the organ by limiting the sloughing process as much as possible. This is to be effected only by the employment of the means before pointed out for the treatment of ulceration of the cornea.

I have, in the next place, to direct your attention to *opacity of the cornea*.

It has been stated that, during the progress of the different kinds of ophthalmia before described, opacity of the cornea is of very frequent occurrence. In all such cases the opacity is the result of an extension of the inflammatory action into the texture of the cornea, or its conjunctival surface, and is owing to a deposit of lymph, or some other turbid fluid, which, after a time, either becomes absorbed or is organised, and forms an integral portion of its structure.

But opacity is not always a product of inflammation, inasmuch as, in elderly persons, it is very common to notice an opaque circle, or a portion of a circle, extending around the margin, and sometimes encroaching very considerably upon the general surface of the cornea, where there have never been any inflammatory symptoms present. To this condition the term *arcus senilis* is applied, because it is generally witnessed in elderly persons only. It seems to arise from an impaired action of the secernent vessels, which cease to pour out the transparent, healthy matter, of which the cornea is originally formed, but deposit, instead, a firmer and more opaque substance; a change which is analogous to that which is observed still more markedly in the texture of the crystalline in old age. But this is not the kind of opacity which usually comes under the no-

tice of the surgeon, since, from its situation, generally at the extreme margin of the cornea, it never interferes with vision.

The opacity which results from inflammatory action presents itself to our notice under several different aspects, and in different degrees. The simplest form, and that which is most frequently witnessed, occurs either in little white circular spots, or in streaks, and these are named *maculæ*, or *specks*. A slight filmy opacity, having a hazy or cloudy appearance, and more diffused than the former, is distinguished by the term *nebula*. In each of these varieties, the loss of transparency is confined, or nearly so, to the conjunctival surface: in the former, it is very limited; in the last, it is sometimes spread over a large portion of the cornea.

That very dense, shining, and pearl-like opacity, which results from deep, penetrating ulcers, or from abscess, or sloughing of the cornea, when occupying a considerable portion of its structure, is named *albugo;* when more limited, *leucoma*.

The treatment of opacity of the cornea is to be regulated according to the presence or absence of inflammation. It must always be kept in mind that this morbid appearance is the result of disordered vascular action; and that so long as that action continues the opacity cannot be removed, but, on the contrary, will probably increase. In some instances, it is surprising with how little active inflammation opacity is induced; and yet, in others, we find that a most intense attack of ophthalmia will be unattended with this result.

The means to be adopted for the removal of opacity, then, are, in the first instance, such as are calculated to destroy the morbid action to which it owes its origin. You have learnt from the many cases of conjunctival and corneal inflammation which I have related, that so soon as the vascularity disappears, the resulting opacity is, in most instances, gradually removed.

The opaque matter is more likely to be absorbed in the case of maculæ, or nebulæ, inasmuch as these are generally superficial deposits; but this is very far from being always the case, for it sometimes happens that the smallest specks are permanent. On the other hand, the opacities which result from deep, penetrating ulcers, abscess, and slough of the cornea, may usually be expected to be lasting; and yet it will occasionally happen that these clear up, far more than could have been reasonably anticipated.

The interstitial deposit which occurs in cases of corneitis, or inflammation of the proper texture of the cornea, being unattended with ulceration, as I have before explained, becomes also ordinarily absorbed, after the entire cessation of the inflammatory action.

The first object, then, in the treatment of opacity, is the reduction of the inflammation. I am not about to repeat what I have so frequently said respecting the proper means to be employed for effecting this end. I will suppose all this accomplished, and that, notwithstanding, a certain amount of obscurity remains.

Now, the process by which an opaque deposit of any kind is removed from the texture of the cornea is that of absorption; and the only mode in which the surgeon can be of use, is in the employment of such remedies as have a tendency to increase the action of the vessels engaged in that process. After an attack of inflammation, I have before explained that the vessels become exceedingly relaxed and enfeebled; and it is astonishing, in some cases, how little effect is produced by the most powerful stimulating substances being brought into contact with them. In this condition we find that if there have been ulceration, the reparative process is slowly performed; and, if there have been deposition, the absorbents are tardy in removing the superfluous matter. It becomes necessary, then, in all such cases, to apply an artificial stimulus which shall excite the dormant energies of the vessels.

The substances employed for the purpose of promoting the action of the absorbents are of the class termed stimulants; and the one most frequently used is the solution of nitrate of silver. Its strength, in the first instance, should not exceed two grains of the salt to an ounce of distilled water. After a time, the proportion of the nitrate may be increased gradually up to ten grains to the ounce of water. This is decidedly the most popular of this class of remedies, and by some it appears to be regarded almost as a specific. In prescribing it, however, you must not forget the caution I formerly gave as to the long-continued use of the solution of nitrate of silver, viz., that it is very apt to leave a permanent stain of a deep olive colour in the conjunctiva, which, in the case of young persons, and more particularly females, would constitute a serious blemish.

The vinum opii was formerly a favourite remedy in the treatment of opacity, and, indeed, in chronic ophthalmia generally, but of late it seems to have been almost superseded by the nitrate of silver solution. It would, probably, answer fully as well in the majority of cases.

A solution of the oxymuriate of mercury is, perhaps, as good an application as any other. One grain of the salt to an ounce of distilled water is sufficiently strong to commence with; after a time two or three grains to the ounce will be borne, but its strength ought to be increased very gradually, as it is considerably more irritating than the nitrate of silver solution in like proportions. On the whole, it is decidedly preferable to the latter remedy, inasmuch as

it never leaves any stain on the conjunctiva, however long its use may be continued.

A solution of the sulphate of cadmium has been recently employed by several German ophthalmic surgeons, in the proportion of half a grain of the sulphate to an ounce of water. By them it has been considered as a remedy of some value; but Mr. Middlemore, who has tried it rather extensively, states that it is decidedly inferior in its operation to the solution of oxym. of mercury.

The mode of employing these various substances (and many others might be added to the list), is usually that of dropping them upon the surface of the eye; and hence these fluids are commonly named "drops." We find most authors give directions to drop them immediately on the opaque portion of the cornea. It is clear, however, that this is a matter of no importance, and is apt to give rise to an unfounded notion that the drops are actually to be placed in contact with the opaque membrane, in the expectation of some chemical change being produced in it. As I before stated, these fluids can only operate beneficially by exciting the action of the absorbent vessels: and this will be quite as well accomplished by their application to the conjunctival surface of the inferior lid, by means of a camel-hair brush, which in many cases will be more convenient than the ordinary mode of dropping them on the surface of the cornea.

Various stimulants are also employed in conjunction with some unctuous substance, for the removal of opacities. Of these, probably, the red precipitate ointment, the citrine or golden ointment, the nitrate of silver ointment, and the ointment of hydriodate of potass, are the best; and they also should be brought into contact with the conjunctival surface of the inferior lid, in the manner before pointed out.

A very old-fashioned remedy, and by no means the least effective, is that of blowing through a reed or quill, upon the surface of the eye, some finely-powdered substance, such as the oxide of zinc, white sugar, red precipitate and sugar, powdered glass and sugar candy, and calomel and sugar. The operation of these substances is precisely similar to that of the drops and ointment,—they produce a certain amount of irritation in the organ, which is presumed to increase the activity of the absorbent vessels.

Now it is found in practice that, after a certain time, any particular substance that is employed ceases to produce the desired effect, the eye becomes accustomed to its use, and it no longer acts as an irritant. When this is the case, the plan to be adopted is either to increase the strength of the application, or, what is, perhaps, a better proceeding, to select a fresh one, and as I have pointed out a sufficient variety, you will have no need to be at a loss for a change; whichever of the remedies you may deem advisable to employ, should be made use of once, twice, or three times a-day, according to the effect produced.

It is only by the steady use of these remedies, perhaps, for a considerable time, that any material improvement can be expected to result. Indeed, I am inclined to think that they do not produce so much effect as is commonly attributed to them; for in many cases we find that the opacity is removed by the natural efforts, and in others, notwithstanding their use, it remains uninfluenced.

Some authors speak of paring off the opaque lamina of the cornea, others of removing them by the aid of a trephine; and M. Dieffenbach, it is stated, actually cut out a portion of its substance, and brought the edges of the wound together by means of sutures! Experiments have likewise been made on the eyes of animals, with a view to ascertain if the opaque cornea might not be completely removed, and replaced by a transparent one obtained from some other source, on the principle of the Taliacotian operation. It is almost unnecessary to add, that the results gave no encouragement to the performance of such an operation.

The only condition which offers a prospect of success by operation, is, in cases of central opacity, where the pupil is obscured, and vision, consequently, destroyed. In such cases, an artificial pupil may be formed opposite some portion of the transparent margin of the cornea, so as to give to the patient useful sight.

A particular kind of opacity of the cornea has been observed to follow the use of collyria containing salts of lead. This only happens in cases in which there is a breach of surface at the time of their use. The acetate of lead, when applied to the conjunctiva, and in contact with the lacrymal fluid, undergoes some chemical change, and an insoluble precipitate is deposited in the excavated portion of the cornea, which adheres firmly to it. I have seen many examples of this. It was first pointed out to me by my able colleague, Mr. Windsor, who published a paper on this subject in THE LANCET (Dec. 1830). It appears, about the same time, to have also attracted the notice of Dr. Jacob, as may be seen by reference to the Dublin Hospital Reports, vol. 5. It is possible that this peculiar opacity may have been previously observed, without his having been aware of the cause, by Mr. Wardrop, who speaks of a kind of ulcer of the cornea, in which "the whole surface was covered with a matter resembling wet chalk." With the knowledge of such a result, you will see the propriety of abstaining from the use of any preparation containing salts of lead, in cases of ulceration of the cornea. In some of these cases, I have removed a superficial layer or crust of the precipitate with the point of the lancet.

DIVISION OF THE INTERNAL RECTUS MUSCLE

IN

CASES OF SQUINTING,

WITH OBSERVATIONS, BY

P. BENNETT LUCAS, Esq.

Case 1.—May 2, 1840. Mr. Jacobs, 68, Jermyn-street, ætat. 25, has had strabismus since he was four years old, which is attributed to one of two causes; viz., convulsions occurring after measles; or, a small tumour, which was situated at the inner canthus, to which the affected eye was constantly attracted. The eyes are of a dark-brown colour, and the affected one appears smaller than its fellow. The right eye is directed deeply inwards, so much so, that when both eyes are open not more than two-thirds of the cornea of the affected one can be seen; it is also turned very much upwards, more so than in any of the other cases I have operated upon.

In the presence of Dr. Walsh, Mr. Peplow, Mr. Sharpe, and Mr. Parke, I operated as follows:—The left eye was bound up, so as to exclude the light, and the lids of the affected eye were held apart by Dr. Walsh and Mr. Peplow. With the hook and knife I made the section of the conjunctiva, as in the other cases, and passed the blunt hook from below upwards, beneath the muscle; on dividing which the hæmorrhage was very considerable, amounting to twelve or thirteen drops. The cellular tissue in the immediate vicinity of the lips of the incision, and for some distance, became injected with blood and serum. The eye almost immediately became straight; it was at first directed too much upwards, after the operation, but in a few minutes it righted itself, and both eyes acted in perfect unison.

The muscle in this case was unusually developed; it was fully twice as large as I expected, or as anatomy reveals it to be; it was also powerfully contracted, giving it a rounded appearance, and was very red and vascular, which accounted for the hæmorrhage.

May 3. The eye is perfectly straight, and follows the movements of its fellow, as it should do. Mr. Jacobs says he can see objects more distinctly than before. I placed my fingers before his eyes at various distances, and watched their movements; he suffers no confusion of vision, although it is the first time for these 21 years he has seen objects with both eyes at the same moment. The ecchymosis is rather considerable; the edges of the incision of the conjunctiva, however, are in apposition, and the healing process is going on most favourably.

The ecchymosis continued for some few days, with a slight degree of feverishness, which yielded to the action of aperients, and on the 9th he returned to business.

He remarked this day that the upper eyelid of the affected eye had always been weaker than the other; that he could not raise it so well: his friends often pointed this out to him. This is in all probability the effect of habit, and owes its origin to his having been in the custom of keeping the lid over the turned-in eye to hide its inversion.

16. The wound of the conjunctiva is perfectly healed; the eye, however, is inclining inwards, and this is most remarkable when both eyes are directed forwards; the lid still droops, which gives the appearance of one eye being smaller than the other.

26. I this day, in company with Dr. Hennis Green, called upon my patient for the purpose of examining the eye to ascertain if anything further could be effected by operation, but he was from home; and the following morning I had a visit from Mr. Peplow, the ordinary medical attendant of Mr. Jacobs, who told me that our patient was persuaded to undergo a second operation at the hands of another surgeon, in consequence of it being represented to him that the muscle in the first operation had not been divided.

Case 2.—May 6, 1840. Matilda Parkinson, ætat. 20, an interesting girl, with dark-blue eyes, which are rather prominent. She was born with her eyes perfectly straight. About ten years ago she left her home on a visit to the country for a few weeks, and returned with strabismus, which she attributed to having had her hair parted in front, and curled for the first time, one of the curls being so situated that she was continually turning her left eye towards it.

According to her mother's account, she had when five years old "a brain fever," for which she was energetically treated by her medical attendants, Messrs. Staunton and Kenny, and to the period of menstruation she suffered, more or less, from the effects of this illness. She has never used any means to endeavour to correct the strabismus.

Present State.—Both eyes are large and prominent. The left eye turns inwards, so as to hide altogether the conjunctiva between it and the inner canthus; it also turns obliquely upwards. When the right eye is covered, the left organ at once corrects itself; but it immediately resumes its abnormal condition when both eyes are exposed.

I operated in the following manner:—The unaffected eye was covered with a handkerchief tied round the head, so as completely to exclude the light. The lids of the left eye were held apart by Mr. Obré and Mr. Downing; and having made

the patient direct her eye as much as possible outwards, I inserted the small hook into the conjunctiva about three lines distant from the circumference of the cornea, and divided it from below upwards with the straight knife, to the extent of five lines. Leaving the hook fixed in the inner segment of the incision, I separated the conjunctiva to a sufficient extent from the subjacent sclerotic coat, and introduced the bent probe beneath the rectus muscle from below upwards, and giving it to Dr. Carroll to hold, I divided the muscle with a pair of angular scissors. The patient at this time became faint, and was allowed to rest for a minute or two, when upon examining the eye it was found to be still slightly turned inwards. I introduced the bent probe a second time, and found a few filaments of the muscle undivided at its lower part; when these were severed the eye immediately became straight. The hæmorrhage did not amount to three drops, and the whole operation was completed in less than three minutes. A layer of lint, steeped in cold water, was suspended from the forehead, so as to cover the eye lightly, and she was ordered a powder, consisting of calomel and James's powder.

May 7, twenty-two hours after the operation. The eye is perfectly straight; there is no ecchymosis, pain, or fever. The conjunctiva is slightly vascular for the purposes of reparation; the edges of the incision are in close apposition, with a slight layer of lymph covering them. She can move the eye in all directions, and says she "can see much farther than before." The alteration in her appearance is most satisfactory, and it would be impossible to detect which eye had been turned, were it not from the redness of the conjunctiva.

Her bowels have been moved but once since yesterday.

9. All feverish symptoms have subsided. She complains of no pain, or even uneasiness in the eye. The reparative process is going on most favourably.

Case 3.—May 5, 1840. Catherine Culbert called upon me this day. It is now five weeks since I divided the inner rectus muscle in this case, having performed the operation on the 7th of April. It will be recollected that Culbert is sixty years old, and had her eye inverted for fifty-seven years; and that in the slight allusion I made to her case in The Lancet of April 18th, I stated that the operation was unattended with benefit to the strabismus. In The Lancet of May 2, however, which contained a full detail of the operation upon this patient, it was mentioned that "it would be interesting to follow this case, with the view of ascertaining if the muscles, which have now been fifty-seven years accustomed to particular actions, may not eventually bring the eye to its proper position, the inner rectus muscle having been divided."

These anticipations have already been in part realised, as Culbert has considerable power in everting the eye which was operated upon.

When she looks at an object, placed directly before her, with both her eyes, the right one turns in, but has no tendency to turn upwards. She can, when desired, turn, without the slightest difficulty, the eye which was operated upon outwards, as far as the centre of the axis of the orbit, but the left eye immediately turns inwards. When the sound eye is covered so as to exclude the light, she can direct the right eye still more outwards.

The movements of both eyes are as follow:—when either the right or left eye looks half-way outwards, the other occupies the inner canthus; thus approaching the harmony of action, which obtains to the movements of both eyes when in a natural and healthy condition.

There still remains a slight vascularity of the conjunctiva, but no mark of the incision which was made in this membrane is to be detected. The opacities of the cornea are disappearing, they are much less dense than before the operation; and this circumstance, together with her ability to turn the eye from the useless position it for so many years occupied, accounts for her statement, "I can see much better with it than before."

Case 4.—May 6. William Egan. The healthy redness still continues, and reparation is going on most favourably. The eye is perfectly straight, and obeys all the natural movements. He suffers no pain; sleeps well; his bowels are kept open by aperient medicine.

9. Saw Egan this day at two o'clock; the redness of the conjunctiva is disappearing; a layer of lymph, about half a line in breadth and five in length, exists in the site of the incision; he is in every way in perfect health, and running about.

Mary Anne Daly, the child upon whom I operated on the 11th of last month, is perfectly well. It is impossible to detect which eye had been operated upon, unless the conjunctiva be closely examined, when a slight line of cicatrix is still visible.

Mr. Crossland, who was operated upon in the month of April, is in the country, and writes thus:—"My eye is going on beautifully; my surgical friends say that the operation is most excellent; the ecchymosis is fading away daily."

Remarks.—To Professor Dieffenbach unquestionably belongs the merit of being the first surgeon who put into operation the division of muscles for the cure of deformities of the human eye. The details of his

method of operating have already appeared in THE LANCET, and if, in the course of my experience to this date, June 20, in 32 cases, I have deviated from the rules laid down by this eminent surgeon, I was guided not by a wish to arrogate to myself any credit for originality or innovation, but by the necessity arising in the cases themselves for other auxiliaries.

On perusing the cases which have appeared in THE LANCET, it will be seen that no positive rules, beyond the method of making the incision of the conjunctiva, can be laid down. Like every other operation in surgery, circumstances will arise which will demand various proceedings; in some the muscle will be found unusually developed and of a rounded form, arising from the energy of its action; in others the muscle will present the very opposite conditions to these. The patient in one case will assist the operation to his utmost, by everting the organ when required, and making little, if any, resistance; in another he will struggle, and otherwise impede it. Occasionally, when the incision of the conjunctiva is made, the patient gets faint; a circumstance which facilitates the operation by rendering it almost bloodless: whereas, on the other hand, no feeling of this kind will be present; and here hæmorrhage, to a greater or less extent, will take place, and impede its progress. If, as has happened to me in some of the cases, the eye does not become straight when the muscle is supposed to be completely divided, a muscular fibre or two will be found to be still connected with the sclerotica. In such a case the small, curved, probe-pointed knife will be found to be the best instrument for completing the division of the muscle.

The instruments, made for me by Weiss, which are necessary for the operation, and for any emergency which may present itself, are as follows:—

A small hook in a cedar handle.
A wire speculum.
A fine straight knife.
A blunt curved hook.
A sharp, curved, probe-pointed knife.
A pair of angular scissors.
A common forceps.

June 20, 1840. The following additional remarks on thirty-two cases in which I have operated to this date, are not devoid of interest:—

In eighteen cases the left eye was affected; in twelve cases the right eye was affected. All these were cases of convergent strabismus; in two cases (girls, aged 16 years and 18 years) both eyes were affected as follows:—When the patients were desired to look directly at an object with either eye, the other immediately turned inwards so as nearly to conceal the cornea. In consultation with Mr. Pettigrew and Drs. Green, Wm. Pettigrew, and Perry, it was decided that the cases were ones for operation. I divided the inner rectus of the left eye in one, and of the right eye in another, and propose to operate next week on the opposite recti. The result of these shall be forwarded to THE LANCET in due course. The ages of the 32 patients varied from 6 to 60 years.

Two cases were unsuccessful; one a lady aged 45, and the other Catherine Culbert; in both these, the eyes were sunken, small, very much inverted, and of a dark colour. Both, however, have now some power in everting the eye.

In two cases I had to operate a second time, and this gave me an opportunity of ascertaining, in the living subject, what became of the muscle after its division. In these the eye, after the operation, became, as in the case of Mr. Jacobs, perfectly straight, so much so that I possess a drawing of one of them which was taken before and after the operation by Dr. Pettigrew. The eyes began to turn in on the eighth day after the operation, but in none to the extent it did previously. After having made the incision of the conjunctiva in the usual manner, I clearly saw the mark of the original attachment of the muscle in both cases, and a short distance behind this point (from a line and a half to two lines) I found the muscle adherent to the sclerotica. I again slipped the blunt hook beneath each muscle and divided them, when the eyes became perfectly straight.

The oldest case in which I operated with success was 40 years, and he had had inversion of the right eye for 37 years; the youngest was six years, and she had had inversion of the right eye for three years.

Of the supposed causes which produced the strabismus in these cases; *one* was from a blow on the head; *two* from imitation; *one* from a glare of light; and the remainder, from diseases incidental to childhood, such as convulsions, teething, &c.

Ten cases applied to me with squint which did not admit of operation. In most of these the strabismus was temporary, and varied in intensity and frequency with the state of health of the children. In one there was adhesion of the iris to the cornea, and opacity of the latter for one-third of its circumference. The eye in this case was evidently inverted to admit the rays of light through the transparent part of the cornea; and here an interesting question presents itself, viz., whether in cases of opacity of the cornea, calling for the operation of artificial pupil, instead of incising or detaching a portion of the iris, the object of the operation might not be attained by dividing a muscle; and thus, at the expense of a squint, to bring the transparent part of the cornea in a more favourable position for the transmission of the rays of light?

In another of these cases there were two

specks on the cornea after small-pox, and slight strabismus. The opacities of the corneæ are disappearing under the use of collyria, and the strabismus improving.

In several cases, after the operation, an ecchymosis occurred in the line of the *external* rectus muscle, taking its exact shape; this, in all probability, is owing to the rupture of small blood-vessels, caused by the energetic contraction of the external rectus, its antagonist being divided. A granulation, of the fungoid kind, has, in three cases, shot up between the lips of the incision of the conjunctiva, which I had to remove with a pair of flat curved scissors. The remote effects of the operation on vision, I am keeping an accurate account of, and shall furnish in a separate communication.

REMOVAL OF THE EXTERNAL LABIA PUDENDI.

By Simeon Bullen, *Esq., Surgeon, London.*

Mrs. ——, the wife of a respectable farmer, about fifty years of age, applied to me in May, 1837, stating that, for a period of nearly three years, she had been affected with swelling of the labia pudendi, which had been gradually increasing; that she had not obtained any benefit from the medical practitioners whom she had consulted, and that the swelling had latterly become very painful. Her health had become generally weakened, and she was in great anxiety and distress of mind, despairing of recovery. On examining the parts, I found each external labium pudendi considerably enlarged in every dimension, and occupied by a tumour apparently such as that classified by Mr. Abernethy as vascular sarcoma. There was not any chance of cure in this case, excepting by extirpating the parts, and I advised her to have the operation performed, to which she assented. On removing the left labium, the discharge of blood was so rapid and profuse, and the vessels so numerous, that before I could succeed in securing them, fainting had taken place, and the effect on the system was so alarming, that I was obliged to postpone for many days the operation for removing the other, which was attended with similar loss of blood. The surface of the incision was covered with dressing of ceratum cetacei, the wound cicatrised in a few days, she soon recovered her health, and has never had any return of the disease. The substance of each tumour was composed of adipose and fleshy tissue numerously supplied with blood-vessels.

The Rev. Stephen Hales, the author of "Statical Essays," published in 1727, is celebrated for his physiological inquiries. Haller speaks of him as "pious, modest, indefatigable, and born for the discovery of truth."

PURULENT OPHTHALMIA OF INFANTS.

To the Editor of The Lancet.

Sir:—The following remarks on the purulent ophthalmia of infants are at the service of your very valuable Publication. I am, Sir, your obedient servant,

C. Edwards, A.B.T., C.D., M.R.C.S.L.
Grosvenor-street, Cheltenham.
June 8, 1840.

This affection I had found most frequently occasioned by the application of leucorrhœal matter to the eyes of the infant during birth, and especially in cases of tedious delivery of the head. This latter consideration accounts for the many cases of exemption from contamination by vaginal discharges, which latter are so frequent in females.

The ophthalmy generally begins about the second or third day after birth, in which case I have been always able to trace it to vaginal discharge. When it occurs later, e.g. about the 9th, 10th or 11th days, the cause is more obscure, and even here I believe it attributable most frequently to some want of cleanliness in the ablution of the infant, or the application of a soiled napkin or sponge to the eyes.

This distinction between the *early* and *late* infantile ophthalmia (the causes of the former being known, of the latter obscure,) has not hitherto, I believe, been pointed out by any other writer. From a very large experience on the subject, I think it will be found correct.

My object, however, is not so much to expatiate on the etiology of this disease, or to show how it differs from the purulent ophthalmia in adults, as to adduce some practical improvements in the treatment, whereby, in the first stage, the severity of depletion (so essential in the case of adults) may be rendered unnecessary; and at a later period of the complaint a more definite application of remedies may be pointed out.

For practical purposes this ophthalmy may be divided into three stages, according to the predominance of certain symptoms. First, a short inflammatory; second, a purulent; and, thirdly, the ulcerative or resolvent stage, according as destruction of the cornea, &c., may occur, or a general abatement of the symptoms be obtained.

In the first stage, or that to which antiphlogistic treatment is chiefly addressed, it is of great consequence (if not of vital importance) to be able safely to dispense with the severe remedies advised by the late Mr. Ware, Dr. Vetch, and most writers on ophthalmic surgery, who direct the application of leeches and even opening the temporal artery, &c. &c. It is needless to state how very seriously these depletory measures reduce infants of so tender an age. Blisters also are advised. It is well known

to every surgeon in extensive practice, how cautiously these should be resorted to in the case of new-born infants, and what frightful ravages they sometimes produce by sloughing. In fact, it is in treatment rather than in symptoms, that I would establish a practical difference between infantile and adult purulent ophthalmia.

To avoid the usual severity of treatment in the first stage, there is but one alternative, unfailing as it is simple, namely, the timely application to the eyes of lint wetted in tepid water, and afterwards covered with oiled silk. This mode of water, or vapour-dressing, although simple, requires to be well understood. To those unacquainted with it, I would recommend either the perusal of the recent work on inflammation of the truly philosophical Dr. Macartney, late Professor of Anatomy in Trinity College, Dublin, where I had the honour of being his pupil, or else a visit to some of the large hospitals in Dublin, where it is now in so general use.

It is also essentially necessary, that the accumulation of matter should be prevented by frequently repeated ablution with tepid milk and water, either by means of a sponge or small syringe. If the oiled-silk dressing have been properly conducted, no trouble will arise from agglutination of the eyelids.

As soon as the *second* stage arrives, indicated by the purulency predominating, discontinue the vapour-dressing, and commence with the following, viz. :—

Nitrate of silver, gr. ii. ;

Distilled water, ℥i. Let fall one or two drops into the eye two or three times a-day. Afterwards increase the strength of the solution according to circumstances. It will seldom be found necessary to go further than five grains of the nitrate of silver to the ounce of distilled water, or to use any other local remedy, if the whole treatment have been steadily and properly directed.

Although there is no remedial agent which does not occasionally fail, still it is of great consequence to know a particular remedy, on the general action of which we can repose firm reliance. I make this remark for the benefit of the junior practitioner, who, in an acute affection requiring the most prompt decision, is often bewildered by a host of remedies carelessly grouped together, as on the same footing; by writers whose works often, rather exhibit an ostentatious variety of their remedial resources, than render their extensive experience properly available by minuteness and precision, in disposing them in the order of their respective merits.

Among others the wine of opium is often advised in the latter stages of this affection. I have known, however, an infant narcotised for a considerable time by the use of a single drop applied twice a-day. The cerebral congestion thus produced must evidently of itself be very unfavourable to a cure. The nitrate of silver solution increased in strength at this period is by far a preferable and more successful remedy, independent of being, in other respects, unobjectionable. This objection to the vinum opii does not of course extend to the scrofulous ophthalmy of more advanced children and of adults.

The early and late infantile purulent ophthalmia, though differing in cause, as I have just pointed out (the former being always occasioned by vaginal discharges, and especially occurring in cases of tedious delivery of the head, the latter by more obscure causes), yet correspond in treatment. I need not dwell upon the internal remedies of these cases. Strict attention must be paid to the state of the bowels, and small doses of calomel with antimonials, in conjunction with aperients, will be found frequently indicated.

DIEFFENBACH'S MODE OF OPERATING FOR STRABISMUS.

To the Editor of THE LANCET.

SIR :—In your Journal for May 2, p. 190, Mr. B. Lucas observes, in speaking of the new operation for the cure of strabismus, "I was struck with the number of hooks which were employed (by Professor Dieffenbach), and the necessity arising therefrom for many assistants, who, in all operations," &c. &c. "In Professor Dieffenbach's operation no less than four hooks are employed," &c. &c.

This judgment, which Mr. Lucas passes upon the operation, as performed by Professor Dieffenbach, is incorrect, owing to his having read the account of the three cases, as reported in the "British and Foreign Medical Review" for April, 1840, from the "Berlin Med. Zeitung;" and which report is in so far incorrect, as the translator describes the mode of performing the operation in the first case only, and states that in the second and third case the operation was performed as in the first.

I have now accurately compared the cases recorded by Dieffenbach in the "Berlin Med. Zeitung," Nov. 13th, 1839, Feb. 5th, and 12th, 1840, and find that, in the first case, Dieffenbach certainly used a simple hook for the conjunctiva and a double one for the sclerotica, and, moreover, two hooks for securing the eyelids; which two latter hooks are nothing more than the common wire retractors, sometimes so termed in Germany. He speaks also of having been assisted in this case by three persons. In the second case he used only the simple hook through the conjunctiva for fixing the eyeball, which he held himself during the operation (omitting the double hook for this purpose), and speaks only of one assistant who fixed the eyelids by the retractors. In

his third case he made use again of the simple hook for the conjunctiva only, but gave it to an assistant to hold, and speaks of two assistants in this case. I have since learned, partly by letter from Dieffenbach himself, partly from medical men who have seen him operate in Berlin, that in all subsequent operations (and he has now performed more than 100), he never used more than one hook, two retractors, a small knife, and a pair of curved scissors, and that he performed the operation altogether in the manner described in my first cases, published April 17th. Dieffenbach, who, as all know who have seen him operate, always adopts the most simple means, did not find the operation ready made for him, but was obliged to try different methods and instruments. In the first case, he found by experience that the double hook in the sclerotica was not only superfluous, but even injurious, and he rejected it in all subsequent cases, being well aware that an eye is not to be roughly handled.

I should not have troubled you with this, as I thought this critique of Mr. Lucas upon Dieffenbach would have been ephemeral, and any person who, again speaking of Dieffenbach's mode of operation, would at least read his original report in the "Berlin Med. Zeitung." But as I find in the "Medical Gazette" of last week, that Mr. E. J. Scott, of Portsea, agrees with Mr. Lucas in this false impression, as regards the number of hooks and assistants employed by Dieffenbach, I consider it my duty, as a pupil and friend of the eminent professor, publicly to refute and rectify this error, and should feel greatly obliged by your finding a place for this letter in your valuable and widely-diffused Journal. I remain, Sir, your obedient servant,

A. Franz, M.D.

19, Golden-square, June 15, 1840.

*** We have seen a note from Professor Dieffenbach, dated June, 1840, in which he states that he has operated for strabismus two hundred and fifty times.

NINE CASES OF CÆSARIAN OPERATION,

PERFORMED BY DR. HŒBEKE.

The following analysis of nine Cæsarian operations performed by the same surgeon, may be perused with interest by many of our readers:—

Case 1.—Bosman, 32 years of age, long subject to rheumatic affections, for which she took sperm oil, for the last five years was confined to bed, and unable to move; was at the sixth month of pregnancy when first seen, and then had suffered from convulsions for some time. The transverse diameter of the outlet of the pelvis was very much diminished, being scarcely three quarters of an inch. The operation was performed by an incision along the linea alba; the child extracted alive; the abdominal wound closed by seven points of suture; the case terminated favourably.

Case 2.—The subject of this case had been delivered of five children in the natural way; took considerable quantities of the sperm oil for rheumatism, without any relief. The transverse diameter of the pelvis was only 1 inch 9 lines. The child was extracted alive by the Cæsarian operation, and the mother went on well for six days, when, under the influence of a violent fit of coughing, the sutures and the cicatrix of the abdominal wound gave way; the intestines escaped from the cavity of the abdomen; inflammation set in, and the woman died in three days afterwards.

Case 3.—This woman had already had three natural labours, when she was seized with rheumatism; for this affection she took the oil, and was relieved, being able to walk about with a stick. In this state she again became pregnant, and was again subject to violent rheumatism; the waters had been discharged for 24 hours when Dr. Hœbeke arrived; the tuberosities of the ischia were so close to one another, as to leave scarcely an interval of two lines between them. The operation was performed in the usual manner, but the patient died, in a few days, of peritonitis; the child also died within a few minutes after its extraction.

Case 4.—This case resembled in its general features the former one. The woman, 48 years of age, had borne three children, without any accident or difficulty; was then subject to rheumatism, for which she took the fish oil. On becoming pregnant for the fourth time she was compelled to keep her bed. The transverse diameter of the pelvis measured only one inch and a half. In this case both mother and child survived the operation; the woman being able to go to church on the 18th day.

Case 5.—Deformity of the pelvis, after long continued attacks of rheumatism, treated by the use of fish oil; patient, in addition, labouring under symptoms of phthisis; death of the mother in three days after the operation; child extracted alive, but died in a few minutes.

Case 6.—The patient was mother of three children, who were born without accident. She had been subject to severe rheumatism for several years, and was relieved by the fish oil. She again became pregnant, and labour set in on the 22nd May, 1837; Dr. Hœbeke saw her on the 24th, when she was worn out with fatigue, and all pains had ceased. The transverse diameter of the out-

let was only half an inch. On dividing the linea alba the fœtus immediately presented itself, and it was evident that it had escaped through a laceration of the uterus, which was firmly contracted. Dr. Hœbeke, therefore, cut off the chord, as close to the uterus as possible, and allowed the placenta to remain. Having cleansed the intestines and abdominal cavity of the matters which had been effused from the uterus, Dr. H. applied eight points of suture, and strapped the abdomen firmly with long strips of sticking plaster.

26. During the night frequent vomiting of very dark matter; skin burning; pulse quick, but no pain.

The vomiting and febrile symptoms continued for five days, with little abatement. On the 31st the vomiting was even more frequent, and as all the medicines hitherto given had produced no effect, the physician ordered them to be discontinued. The lochia were extremely fœtid; abdomen somewhat tumid; wound looking favourably.

June 1. The vomiting has ceased. 2nd. The wound is healing, and the patient slept well last night, for the first time. On the 6th, the symptoms were of a very unfavourable nature, but the placenta was fortunately expelled in a state of high decomposition. From this time the woman rapidly recovered, and was completely well on the 27th day after the operation.

Case 7.—Female, 33, had borne two children in the natural way, and without accident; had taken considerable quantities of fish oil for rheumatism, without benefit; deformity of the pelvic outlet, which resembled an ace of hearts, and barely admitted of the introduction of three fingers. As the uterus deviated towards the right side, the incision was made obliquely along the abdominal wall on this side; the epigastric artery was divided, and tied; the rest of the operation presented nothing worthy of notice. Up to the 4th day everything went on favourably, but on the 5th, severe hæmorrhage set in, and greatly reduced the patient; the bleeding, however, was arrested; on the 7th day the ligature came away, and on the 14th day the woman was sufficiently recovered to go to church; the child also survived and became strong.

Case 8.—Female, aged 39 years; had borne several children without accident, when she began to take the fish oil for rheumatism; during this latter time she again became pregnant, and had been three days in labour, when the author was sent for. The abdomen was tumid and painful; tongue red and dry; thirst intense; frequent vomiting. The transverse diameter of the outlet measured only one inch and a half. The operation was performed in the usual way; the child was dead; metro-peritonitis set in on the following day, but was successfully combated by antiphlogistic means. In a month the patient was completely restored to health, when she was unfortunately attacked by typhus fever, which then prevailed in the neighbourhood, and cut off in a few days.

Case 9.—The antecedent history of this case is exactly similar to the former ones, viz., well-marked deformity of the pelvis supervening on the administration of fish oil for rheumatism. The outlet of the pelvis was almost closed up, the tuberosities of the ischia being distant only two lines, while the interval between the coccyx and ischia admitted one finger only. In this case Dr. Hœbeke operated after the method of Lauverjat, i. e., by a transverse incision of the abdominal parietes. On dividing the uterus he found that it contained twins; and the second fœtus was extracted with great difficulty. Notwithstanding the unfavourable condition of the patient, and the difficulties of the operation (for the surgeon would have been left by himself and in the dark were it not for the humane courage of a poor curate), this case proceeded very favourably, and terminated in complete cure in about three weeks.

Dr. Hœbeke, in drawing attention to the above cases, remarks, that the pelvic deformity was probably occasioned by the use of the fish oil. None of the patients had laboured under scrofulous affections; they had all borne children without any accident, until they became affected by rheumatism, for which they took fish oil (*huile de baleine*) in more or less quantity. Under the influence of this remedy, the pelvis became deformed in a manner quite different from that observed in rickets. It is impossible, observes Dr. H., to attribute the softening of the bones to the rheumatic affection; and, again, in the localities where the fish oil is not extensively used as a remedy for rheumatism the deformity of the pelvis does not prevail.—*L'Experience*, Nos. 152, 153. 1840.

TEACHING ANATOMY IN AMERICA.

Dr. Watson, in a "Summary View of the Progress of Medicine in America," writes, "among the earliest cultivators of medical knowledge in New England, were Hunter, Walton, Douglas, and Baylston. Dr. William Hunter, a pupil of the elder Monro, lectured on anatomy at Newport in 1754-5-6; his were the first lectures on subjects connected with the profession in America."—*Dr. A. Smith. Dublin Journal*, May, 1840.

THE LANCET.

London, Saturday, July 4, 1840.

"A FRIEND TO INVESTIGATION" has addressed a letter to us, with reference to some remarks on the comparative mortality of the Milbank Penitentiary and the Middlesex House of Correction. His statements have been authenticated; and as we presume they were written by some person connected with the management or inspection of the House of Correction, we have given them insertion, upon the hypothesis that his alleged facts are true, and fairly stated.

The Milbank Penitentiary is situated in Middlesex, but it is not subject to the inspection of the Middlesex Magistrates; it is more or less directly under the controul of her Majesty's Secretary of State for the Home Department. Hence Mr. LAURIE and his colleagues take a great interest in the mortality of the Penitentiary, and avail themselves of every public opportunity of contrasting it with the salubrious condition of their own inspected House of Correction. It was circulated some weeks ago, in the newspaper reports of the magisterial speeches, that seven or eight persons had been received in a state of insanity from the Milbank Penitentiary. But this was flatly contradicted; that it was false, that it was a pure mistake, was subsequently admitted, with certain qualifications.

Every one is well aware of the effects of magisterial inspection upon the mortality of the Hanwell Lunatic Asylum. Until very lately the mortality was much higher, and the cures were fewer in that establishment, than in any other asylum in the kingdom, though Hanwell cost the county more than £120,000. With these facts before us—and it is impossible to forget them altogether—we have no insuperable objection to the modest self-laudation of the administration of the Middlesex House of Correction. But, in contrasting the mortality with that of the Penitentiary, the comparison should be fairly instituted.

The mortality in prisons is a matter of so much importance, that we shall discuss some of the points to which "A Friend to Investigation" and to the Middlesex House of Correction adverts.

In the first place, the health is impaired and life is shortened by imprisonment. It has been ascertained from the elaborate gaol returns, under 4 George IV., c. 64, and 5 George IV., c. 12, that the average population of 93 gaols, taken indiscriminately, was 9409 in the 5 years from Michaelmas, 1826, to Michaelmas, 1831. The deaths in the 5 years amounted to 769. The annual rate of mortality was, therefore, 16 in 1000. The average ages of the prisoners may be taken at 20—30 years, as it was ascertained that of 23,612 committed, 14,396 were 16, and under 30, years of age. Now the mortality of the general population, in persons of a corresponding age, in England, does not exceed 10 or 11 in 1000.*

The degree to which the mortality is raised depends, other things being equal, upon the duration of the imprisonment. The body resists the effects of imprisonment for a certain time, precisely in the same manner as the dogs in Magendie's experiments suffered little at first when fed on sugar:—

"The experiments were performed on dogs. During the first *seven* or *eight days* the animals were brisk and active, and took their food and drink as usual; in the course of the *second week* they began to get thin, although their appetite continued good, and they took daily between six and eight ounces of sugar. The emaciation increased during the third week, and they became feeble, and lost their activity and appetite. At the same time an ulcer appeared on each cornea, followed by an escape of the humours; this took place in repeated experiments. The animals still continued to eat three or four ounces of sugar daily; but, nevertheless, became at length so feeble, as to be incapable of motion, and died on a day varying from the 31st to the 34th; and it must be recollected that dogs will live the same length of time without any food at all."—*Müller's Physiology*, vol. i., p. 481.

Now, if it take two or three months to

* "Maculloch's Statistics of the British Empire," art. "Vital Statistics," vol. ii., p. 542.

impair the health in prison, men detained a month will be nearly in the same circumstances as the dogs of MAGENDIE, fed upon sugar for seven or eight days. They may be brisk and active; they may take their food and drink as usual. Detain them three months, and the aspect will change; or detain them in one prison two months, and then remove them to a second prison—say the Penitentiary—where the treatment is not more severe, and the mortality may be doubled.

The mean time of detention in the 93 prisons already referred to, was 48 days. It appears, from the letter to the Marquis of NORMANBY, that the average number of prisoners in the Penitentiary was 412; the total number admitted in the year was 704; so that the mean term of detention was 229 days, in addition to the previous imprisonment in gaols. It is utterly irrational, then, to compare the mortality of the prisoners in the Penitentiary with the mortality in the House of Correction, without keeping this difference in mind.

To judge of the relative mortality in the Middlesex House of Correction, all we want to know is the average number of prisoners, the average term of detention, and the number of deaths. "A Friend to Investigation" has not submitted these data to the public, and we have not at present any very recent returns which enable us to supply the omission. But we do happen to have a series of returns down to Michaelmas, 1832, by the magistrates themselves, of the committals, the numbers remaining in confinement, and the deaths in the Middlesex House of Correction, Coldbath-fields. The following are some of the interesting results to which our attention has been so opportunely directed.

The number of prisoners, at Michaelmas, 1831, was 1133; at Michaelmas, 1832, it was nearly the same, 1184. It is probable, therefore, that the average number of prisoners was 1158. The number of prisoners committed in the year was 12,543, and the discharged were nearly as numerous. The mean term of detention in the Middlesex House of Correction was, therefore, clearly, demonstrably, 34 days, and certainly not more. The term of detention was less than in the other gaols; it was a sixth or a seventh of the term of confinement in the Penitentiary.

Notwithstanding the short average term of detention, the deaths in the year ending Michaelmas, 1827, were 14; and in the years ending 1829, 1830, 1831, respectively 10, 13, 16. The average number of prisoners under confinement was 836, the deaths in the four years 53; the annual mortality was 16 in 1000.

In the *five years*, 1830—34, including the period of the cholera epidemic, 19 prisoners died in Newgate, 20 in Horsemonger-lane. The annual mortality in Newgate was 11 in 1000; in Horsemonger-lane, 14 in 1000; the mean term of detention in Newgate appears to have been 48 days; in Horsemonger-lane, 33 days, the same nearly as in the Middlesex House of Correction, where 16 in 1000 died yearly under magisterial supervision.

The severity with which epidemics rage in a place, furnishes an accurate test of its salubrity; and, in a prison, of the practical results of its arrangements and general economy. Cholera prevailed in London in the year ending Michaelmas, 1832, and we omitted the deaths of that year in estimating the average mortality of the Middlesex House of Correction. It is our duty now to advert to the astounding fatality of cholera, in an establishment under the supervision of the magistrates. In that year *sixty-five* persons perished in the Middlesex House of Correction! The mortality was 5½ per cent., double or treble the rate of mortality at the same age in the metropolis; and 90 per cent. higher than in the other prisons of the kingdom during the same year: for 2.9 in 100 died in the 93 gaols; 5.5 in 100 in the House of Correction.

It was not, we presume, from want of medical attendance or medicines, for the surgeon of the House of Correction and the New

Prison had £400 a-year; nor from the lack of spiritual care, for the chaplain had £500 a-year for the cure of the lapsed souls:—

"Of the number who die in the House of Correction, by far the greater part would in all probability have died earlier if they had not been brought to the prison; and no instance can be proved 'from statistical facts,' or otherwise, where imprisonment in that house has destroyed the life of any. Most of those under sentence of short confinement are greatly improved in health."

Such is the deliberate statement of "A Friend to Investigation," and to the House of Correction. Every one must envy the most comfortable thieves of Clerkenwell. They would die "earlier" elsewhere; and by confinement they are greatly *improved* in health. It is, in fact, the hospital of dilapidated rogues, and the resort of invalid vagabonds. The Middlesex House of Correction turns out, after all, to be a *sanatorium*—for the middle classes—for all the long list of persons that Dr. Southwood Smith has, and has not, enumerated. Instead of sending infirm magistrates (if magistrates ever be infirm) to Brighton, Cheltenham, or Bath, in future—they will be sent to Coldbath-fields—to drink the healing waters of imprisonment, under fraternal *surveillance*—and to live on low diet, in cells where it "cannot be proved that confinement has destroyed the life of any."

In order to determine the effects of imprisonment—the mortality of the class of criminals at large should be known. Thieves do die natural deaths, and we would fain hope are some fraction more mortal than honest men; but this cannot be exactly ascertained. The professors of the art and mystery of villany are not distinguished in any public documents. They are a modest race; and are prouder of their deeds than of their titles. Thievery, like other talents, is often hereditary; but who ever heard of a child that had "Thief" registered as the profession of his father? Criminals are never married; and it is questionable whether, after confession and absolution, they can be properly considered murderers, when they die on the gallows, or escape, like Gould, with transportation. There are many thousands of that class in the prisons, the hulks, and the penal settlements; but who can put his hand upon "a rogue" at large? He is a man about town, a respectable person with a gig, a gentleman of the road, the hero of a romance or of an opera. If he wrote a letter, your thief by profession would not hesitate to take liberties with the signature of our respectable correspondent, and entitle himself a "Friend to *Investigation*."

Criminals are a strong, idle, hardy race; and, in the absence of any positive information as to the mortality of that "profession," which Mr. Thackeray has strangely overlooked, we shall assume that out of gaol they experience a mortality very little above the average. It is important to remark, however, that when they commit crimes, and are committed to prison, they are labouring under no serious disease; for this makes all the difference in the world in the mortality. Of persons in health at the beginning of the year, very few die in the ensuing twelve months; of 12,886 persons entering the Equitable Assurance Society, between the ages of twenty and forty, only 43 died in the year; if they had had the good fortune to be placed in the House of Correction, under the magistrates for the time, 206 would have died while their health was improving.

Comparative Mortality per 1000:—

Amongst the members of the Equitable Society in the first year, *three*.

In the Middlesex House of Correction, Michaelmas, 1827-31, *sixteen*.

In the Middlesex House of Correction, Michaelmas, 1831-32, *fifty-five*.

So true it is that "no instance can be "proved from statistical facts, or otherwise, where imprisonment in *that house* "has destroyed the life of any!"

We shall take an early opportunity of discussing the mortality in the Middlesex House of Correction, and the Milbank Penitentiary, within the last seven or eight years, as the proper method of ascer-

taining the relative health of prisons is not generally well known. Some fall into errors as remarkable as that ascribed to Mr. McWilliam, and the Committee of a "Friend to Investigation." They divide the *committals* by the *deaths*, and thus entirely overlook the *time* in which the mortality occurs. Is it not evident that if 1 in 345 died in the House of Correction, 1 in 154 in the Penitentiary—the 1 out of 345 died in 33 days, while the 1 out of 154 died in about 200 days? And, that comparing the mortality in 33 days with that of 200 days, was precisely the same as comparing the deaths in one year with the deaths in six years?

Having—unintentionally of course—done some injustice to Dr. Todd, late of the London University, in an article on the 13th instant,—first, by confounding him with the parties who inflicted a wrong on Mr. Mackenzie and his companions at the medical examination in the above Institution, in 1839, the wrong is cheerfully repaired by our stating that on that occasion Dr. Todd was not present, and, therefore, had no share in the decisions of the unjust judges. We have reason to hope that Dr. Todd exercises a better discrimination between right and wrong, than either to have assisted in concocting or subsequently approving the arrangements which have given so unenviable a notoriety to the examination in question.

Secondly, we were wrong in supposing that the absence of Dr. Todd from the present Board of Examiners was the consequence of anything but his own act. Dr. Tweedie was replaced by Dr. Watson, who, being regarded as a "King's College man," would have made "one too many" from King's College. For Professor Daniell (who, also, had no share in the Mackenzie fraud) and Dr. Todd were also "King's College men." Lots were, therefore, cast, and the mischance of retirement fell on Dr. Todd.

Mention was made in the article on the 13th, of the absence of claim on the part of the majority of the old Examiners, to be employed in the public service. The "majority" did not, of *necessity*, include Dr. Todd; yet a place therein *might*, by the reader, have been assigned to that gentleman. But, in debating the impropriety of that assignment, it should be remembered that the possession of knowledge and capacity do not constitute the only claims to fill the office of Medical Examiner in a public institution. In the London University the examinations are conducted *in secret*, in suspicious privacy; and we refuse to recognise the trustworthiness of any majority of [Examiners who conduct their duties *in the dark*. We must have some better pledge than has yet been presented to us, of the fitness of Dr. Roget and his colleagues for employment in such a service as is concerned in the matter under consideration. The examinations and decisions in the case of Messrs. Taylor and Mackenzie, were not pledges of trustworthiness. They were a glaring evidence of another sort. But putting aside that dereliction from an honest path, never yet retraced; for to this moment, Mr. Mackenzie tells us, not a movement to discharge the debt that is owing to him by the University has been made,—on behalf of the public, we refuse to trust men who *might* perform their duties in the broad light of day, and yet enact them in the dark. Circumstances may induce us to suppose that there is one or more among the Board who approves and would adopt a better order of things; but of all the signs by which men usually indicate such approval,—for instance, the known liberality of their temper, their written words, their movements on behalf of a generous policy in governing, their willingness to promote Medical Reform, their courageous vindication of that question when it looks for friends, their enmity to private examinations and to favouritism towards particular schools, their deprecation of grades, divisions, and unequal privileges in the profession,—by not one of these signs do we

know the majority in question to possess a claim for filling offices of great national trust, over the due execution of which the public are permitted no controul.

One word more, only, at present on this subject. When the policy of having three King's College men amongst the Examiners was discussed at the University, how scarlet was the shame that *University-College* candidates for the diplomas might be expected to be unfairly treated, if *King's-College Professors preponderated in the Board!* Are we right or not in refusing, on behalf of the public, to recognise the trustworthiness of gentlemen who, in the recesses of the University, cannot trust one another?

MEDICAL REFORM.

Mr. Carmichael,—whose heartiness and sincerity in the cause of Medical Reform has recently been evidenced by the remarkable and munificent gift of Five Hundred Pounds, to the Dublin Association, for promoting that object,—filled the chair at the First Anniversary Meeting of the Association, in the capital of Ireland, on the 27th of May. With reference to the petitions which have been presented to the House of Commons this session, he truly observed:—

"Proceeding from such great masses of enlightened and well-educated men, neither the Legislature nor the Government *can* overlook them. The voices of such men *must* be listened to with attention. The people have not as yet come forward to petition Parliament on a subject, in which *their* interests are truly more deeply concerned than ours; but, ere long, they will be awakened to a just sense of the advantage of having none but well-educated practitioners, to whom they may with confidence entrust the care of their health and lives, men whose competence has been tested by the most searching examinations."

He ascribed many of the troubles of the profession to the right cause, when he said that

"The eighteen corporations or colleges in the united empire, empowered to grant licences to practise, instead of competing with each other, to supply for the public service the most well-informed practitioners, exerted a miserable rivalship in the accumulation of money, and consequently inundated the public with medical men. The Irish College of Surgeons, for instance, maintained for many years a high character for its examinations; but of late years it has lowered its examination to the level of other colleges, otherwise it would have scarcely a candidate for its diploma. When eighteen licensing bodies thus contended, as in a Dutch auction, to sell their honours to the lowest bidders in point of qualification, the crowded and wretched state of the medical profession, and the number of half-educated practitioners, were sufficiently accounted for."

But Mr. Carmichael evinced singular weakness in his ability to amend the existing evils, in the proposition that follows, though immediately afterwards he manifested a keen sense that it was unsound, as will be seen in the few lines that we have underscored:—

"I see by the papers, that Mr. Warburton will shortly move for leave to bring in a Bill for Medical Reform in England, Scotland, and Ireland; but if it does not lay the axe to the root, and deprive the several corporate bodies of the licensing power, who thus sell their honours, he may as well allow the present system to remain unmolested. The healing art is an exception to Adam Smith's axiom, that it is unwise to interfere with the open market; for this reason, that the people are not judges of the qualification, therefore a paternal government should provide them with well-educated practitioners, *leaving then the market open, when the selection can only fall on a material of good quality.*" (Applause.)

Mr. Carmichael advocates a tripartite National Faculty of Medicine, representative in its constitution, and conferring one title and equal privileges on its members; but he departs from sound principles, and from his own last-quoted proposition, in recommending the axe of the law to be directed against *every tree in the wilderness.* If the new tree bear the best fruit—if the National Faculty, by the soundness of its construction, the honesty of its examinations, and the wisdom of its decisions as a licensing body, confer real "honours," and not a sham reputation, on successful candidates for its diploma, then around *that* institution students will congregate, leaving the institutions of the monopolists to a safe decay,—the necessary consequence of "an *open* market and material of *good* quality." It is unwise, impolitic, needless, useless, to seek a monopoly for the new institution; and all those honest reformers who have been betrayed into joining the

wrong prayer, will, reflecting anew, at once confine their desires, and adjust their petitions to simple requests for the establishment of a tripartite, representative, NATIONAL FACULTY.

One thing at a time, in struggles for a new law. Indeed, only one thing at *any* time, or for all time, in the way of law, may be desirable, when the one measure of legislation embodies so sound a principle, that a good system and healthy regulations will, under patience, unavoidably issue therefrom, without the interference of the State. Mr. CARMICHAEL, farther developing his views, proceeds thus:—

"The interests of society require that the practice of medicine and pharmacy should be kept as distinct as possible, and, therefore, it is proposed to establish, in addition to the colleges of medicine, *three great colleges of pharmacy*, one in each metropolis; and that *no person shall be entitled to vend or charge for medicine who does not receive his diploma from one of these colleges*. These institutions will be the means of improving the practice of pharmacy in these countries, where the time of apothecaries, at present, is chiefly engaged in visiting patients. All who are anxious for Medical Reform, under any of the schemes which will be submitted to your consideration, agree in the principle, that the apothecary, or the individual who *vends* medicine, is to be interdicted from prescribing it, *with the exception of those who are specially licensed to act as general practitioners in villages or remote rural districts*. Practitioners in medicine cannot be prevented, for obvious reasons, from supplying their patients with medicines, if they please; but they should not be entitled to charge for them; it being one of the most important and leading objects of Medical Reform, to separate pharmacy from the practice of medicine. These great fundamental principles are not intended to apply *to men already in practice*, or to interfere in the slightest degree with what may be esteemed vested rights. They are merely to apply to the *rising generation of practitioners*. (Hear, hear.) The outline of reform, such as I have stated, was agreed upon at Liverpool, last July, at a meeting of the provincial medical men of England."

This proposal to make the "vending" or "charging" of and for medicine penal at law, is exactly such an one as would be offered by the leaders of a "Medical and Surgical Association," for the unwitting adoption of their brother practitioners, when desiring to league them in a scheme for *defeating* Medical Reform in the Legislature. The proposition was appropriately tacked to the plan for "laying the legal axe to the root of the existing corporations." A pretty monopoly, truly, for the "men already in practice,"—a monopoly that would last until death had weeded out all the owners of "surgeries" in the profession; young and old. A rare prospect for "the rising generation of practitioners," who would be starving in second floors, next door to "medical halls" and so-called "doctors' shops," blazing with prismatic bottles in the open street! There might be few enough candidates for this penury, and thus the admissions to the profession wholly stopped, and its ranks gradually thinned; but then what becomes of the pretence to supply the public with the best-educated men on the most accessible terms? It may not be a very noble, or a highly "professional" occupation to sell drugs, or to charge for prescriptions; but it is not the business of sheriffs or turnkeys to correct what is ignoble in medicine, to abate by fine and imprisonment what has been rendered bearable and inoffensive by the custom of centuries, and, if neither classical nor desirable, is only remediable by voluntary consent, yielded from convenience and the prevalence of a better taste.

But Mr. CARMICHAEL himself renders argument or expostulation against such an abuse of legislation unnecessary, by admitting that there must, under the *illegal-vending-and-charging plan*, be created a special class of "general practitioners for villages and remote rural districts!" It is startling to meet with such inconsistencies in schemes of government. *Uniformity of title*, and *equal rights and privileges*, are set forth in the preamble. Two grades, and a *limitation* of rights to *one* of those grades, are ordained in the clauses; and the *fewer* rights are to belong to the *higher* grade! Or, if that mode of putting the question be wrangled, then it may be placed thus:—there shall be a *town* doctor, who need pass the examination of a *medical* board only, for the aristocracy; and a *rural apothecary*, who must gain the licenses both of a *medical* and a *pharmaceutical* college, for *village denizens and ploughmen!* No, no; the Lord and the Merchant must have at their call as well-educated and thoroughly-skilled physicians as the humblest grocer and poorest labourer; or the sick CHESTERFIELD and the afflicted BARING will have (curious reverse!) to post to remote hamlets for the "best ad-

vice," leaving the *pures of Medical Reform* patientless. Then the pastoral apothecaries, finding their superior value, would come to settle in town, and, unless the Act contained an anti-migration clause, on purpose to keep order and patency in the profession, the simple doctors in *medicine* would be driven to the rural districts, and all the system would be upset, and Medical Reform have to be re-agitated and re-enacted, and uniformity of examinations and equal privileges would be secured for the benefit of the whole community only after years of delay, the end of which neither Mr. CARMICHAEL nor any other surgeon of the present generation would live to see, however worthy to enjoy the reform, or however anxious to witness its effectual accomplishment.

MORTALITY IN METROPOLITAN PRISONS.

To the Editor of THE LANCET.

SIR:—By the remarks in THE LANCET of June 13, you appear to have been considerably misled by your correspondent, who has been pleased, through your pages, to inform the world, that "The Middlesex magistrates have been boasting not a little, at a late meeting, of the low state of mortality in the prisons under their inspection, and have raised a great clamour on the subject of the high rate of mortality in the Penitentiary. Now," says your informant, "what is the fact? Why, simply that the prisoners remain a few weeks in the House of Correction, and leave it before their health is finally impaired. But the seeds that are implanted there, bear fruit in the prisons and hulks, where the criminals are finally lodged."

Had your informant inquired into the facts, he would have found that the average number of prisoners in the House of Correction has of late been nearly 1100, varying, as to length of sentence, from three days to seven years. If it were possible to take an average length of imprisonment in that great number, it would, probably, be about forty-eight days, the period which you state; but you are very incorrect when you assert, "that the prisoners leave the House of Correction," and go to other "prisons and the hulks, where they are finally lodged." That statement will not apply to the House of Correction, but may to the New Prison Clerkenwell, to Newgate, and other prisons for safe custody *only* before conviction and sentence. In these two prisons the average time of confinement is about or under twenty days.

In the Middlesex House of Correction the prisoners are finally lodged, and undergo their whole term of sentence; there are very few, if, indeed, any, removed from that to any other prison, or to the hulks; but many are brought there from the Penitentiary after their health has been much impaired. Of the number who die in the House of Correction, by far the greater part would, in all probability, have died earlier if they had not been brought to that prison; and no instance can be proved "from statistical facts," or otherwise, where imprisonment in that house has destroyed the life of any. Most of those under sentence of short confinement are greatly improved in health by washing, bathing, thoroughly cleansing, and clothing. Though long imprisonment in any place invariably tends to injure the health, yet in the Middlesex House of Correction, after long confinement, the prisoners generally go out in a healthy state, but they as frequently dash at once into their former habits of intemperance and excess, and thereby destroy their own lives. This is incontrovertible; and in these cases, which are frequent, THE LANCET, with its accustomed fairness, cannot charge the excesses, and consequent loss of life, against the prison. But as one fact is stronger than much argument, I select one of many for illustration.

Charles Lucase was, on the 17th October, 1836, sentenced, at the Old Bailey, to six months' confinement, six weeks of which to be solitary. His time having expired on the 17th April, 1837, he left the Middlesex House of Correction, and died soon afterwards. Sir John Scott Lillie complained to the Justices in Sessions of the treatment of that person while in prison, and at Sir John's request a committee was appointed, consisting of himself, with Messrs. Tulk, Thistleton, Bailey, McWilliam, and Halswell, none of them being visiting justices of that prison. After several meetings at the prison, and also at Fulham, whence the prisoner was brought to trial, and to which place he returned and died, that committee reported to the Sessions that it exonerated the officers of the prison and the treatment from all blame. In that case it was proved to the committee that, on the day of his discharge, and before he reached his home at Fulham, Lucase was intoxicated, and having immediately returned to intemperance, produced his own death. In the discussion at the Sessions, on bringing up the report of this committee, Mr. McWilliam made the following statement; that, during the year immediately preceding this investigation, the proportion of deaths in the metropolitan prisons had been as opposite.

In the Fleet, from the 5th September, 1835, to the 4th March, 1837, there were no deaths.

Thus it appears, that the state of mortality is much higher at the Penitentiary than at the Middlesex House of Correction, though several of those who die in the House of Correction are brought there from the Peni-

Proportion of Deaths in the Metropolitan Prisons.

	Daily Average in Confinement.	Annual Total.	Annual Death	Proportion about.
Newgate	224	3125	1	1/31
New Prison, Clerkenwell	161	5922	3	1/97
Brixton (average of 5 years)	229	2533	3	1/83
Horsemonger-lane	228	3500	5	1/80
Whitecross-street	350	2500	5	1/80
Westminster New Bridewell	314	5409	12	1/45
Coldbath-fields House of Correction	871	7931	23	1/34
Penitentiary		617	4	1/154
Marshalsea		554	5	1/111
King's Bench		554	5	1/111
The Fleet		437	4	1/109

tentiary after their health has been much impaired. Upon a very strict examination of all the facts, it will, doubtless, appear, that the mortality in the Middlesex House of Correction is the lowest (upon an average of several years) of any of the metropolitan prisons.

It is to be observed, with regard to Newgate, that that prison is principally for safe custody before trial and conviction, and, with the exception of those who suffer the extreme punishment of the law, very few, if any, continue there during the whole time of their sentence, but are sent to the hulks, or transported. The changes in Newgate are, on an average, about eighty prisoners daily, and the average time of their confinement is about, or rather under, three weeks.

Clerkenwell New Prison being also for safe custody before committal, or for very short or summary commitment, the average time of confinement is about, or rather under, twenty days.

Westminster, New Bridewell, Brixton House of Correction, and Horsemonger-lane, are prisons for safe custody before trial and conviction, and also houses of confinement after conviction, to undergo the whole punishment awarded to them by the courts.

You state, "That the situation of the Milbank Penitentiary is bad, cannot be disputed." I would ask you to show your proofs; that which many people say is not *always* true, and there is not one tittle of evidence before the public as to the situation of Milbank Penitentiary being bad, unless, indeed, the high state of mortality (which, indeed, cannot be disputed). Is there any, and what, evidence before the public, that the construction of the buildings may not contribute, or the rules of discipline established there, or the general management, or whether all these may not contribute some share towards the melancholy results, and exonerate the *situation* from the greater part, if not the whole blame?

A Friend to Investigation.

PETITION FROM LEEDS,

AGAINST THE ADMISSION OF THE POOR-LAW COMMISSIONERS' NAMES INTO THE

VACCINATION ACT.

A petition, of which the following is a copy, has been sent from Leeds to Mr. Baines for presentation to the House of Commons. Amongst other gentlemen the petition is signed by all the physicians and surgeons of the Infirmary; and we are informed that treble the number of names would have been attached to it, had sufficient time been afforded to procure them:—

To the Honourable the Commons of Great Britain and Ireland, &c.

The petition of the under-signed medical practitioners of the Borough of Leeds, in the county of York, humbly showeth:—

That your petitioners have observed, with deep concern, that a Bill intituled, "A Bill to Extend the Practice of Vaccination" now before your Honourable House, proposes to place in the hands of the Poor-Law Commissioners the function of superintending the practice of vaccination; and inasmuch as your petitioners are decidedly of opinion, that to give the regulation of so important a measure as the practice of vaccination to any lay agency, would not be likely either to promote the interest of medical science, or the due conservation of the public health, your petitioners humbly beg that the regulation of such practice be not entrusted, by your Honourable House, to any unprofessional board:

And your petitioners will ever pray, &c.

A. Hunter, M.D.	R. W. Cass.
J. P. Garlick.	G. Pyrmont Smith, M.D.
J. I. Ikin.	William Hey.
Geo. Wilson, M.B.	T. P. Teale.
R. Geo. Horton.	R. Hopper, M.D.
C. Chadwick, M.D.	William Hay.
Samuel Radcliffe.	James Ward.
G. E. Beaupark.	Henry Chorley.
Charles Nelson.	W. Braithwaite.
Thos. Smith, M.D., Lond. et Glas.	R. Hobson, M.D., Cant.
John Albute.	Thos. O'Connor.
T. Lewin Marsden.	J. Teale Sigston.
Edwin Foster.	Henry Bell.
Samuel Heald.	

Practical Observations on Abortion. By J. S. Streeter. With Plates and Woodcuts. London: Sherwood and Co., 1840. 8vo. pp. 70.

The principal point to which Mr. Streeter is desirous, in the present essay, of directing the attention of practitioners, is, that early abortions commonly depend either on some morbid condition of the embryo or its membranes; or on some morbid action of the interior of the uterus, which leads to abnormal states of the uterine coverings or connecting structures, incompatible with the development and life of the fœtus. From a consideration of these, the more immediate causes of abortion, he shows that we cannot pretend to lay down any rules for the prevention of miscarriage in any subsequent pregnancy, without first determining, from accurate examination and competent knowledge of embryology, the normal or pathological conditions of the aborted ovum. The practical points which the author seems anxious to enforce, are an exact distinction between the premonitory and the essential symptoms of miscarriage: the impropriety of the use of opium, and the advantage of that of ergot during abortion; and the disadvantages of rupture of the membranes during that process.

Having described in a very brief manner the structure of the ovum, Mr. Streeter examines the nature, symptoms, and causes of abortion. The causes are resolvable into three great classes; viz.

1. An imperfect or abnormal formation of the ovum.

2. Morbid states of the uterus, or its appendages.

3. Morbid states of the mother, generally.

The first, according to the author's experience, is by far the most frequent cause of early miscarriage, to which it leads by determining certain changes in the structures of the utero-ovine attachment. The second class comprehends a great number of diseases or morbid conditions of the uterus, which are simply enumerated by the author. On the constitutional causes of abortion, Mr. Streeter remarks, that systematic writers seem to have speculated rather on what *may* have occurred, than on what *has* really taken place. He believes that so long as the utero-ovine connection remains healthy, and the excitability of the uterus is not exalted above its natural standard, abortion is not produced by constitutional disease of remote organs, or by general states of plethora or debility.

When abortion is threatened *before* the third month of pregnancy, especially if the case be attended with any hæmorrhage, Mr. Streeter forbids the use of opium. The result of inquiries having shown, that, in almost all cases, the abortion depends on some diseased condition, which must take its course; and it would therefore be improper to employ any remedy for the purpose of checking uterine contraction. When the hæmorrhage becomes so profuse as to produce disagreeable consequences, the practitioner should have, at once, recourse to the ergot of rye, and to plugging the vagina. In some cases, however, (and they are much more frequent than Mr. Streeter seems to have any idea of,) the membranes are ruptured, the embryo expelled, and the membranes with the imperfect placenta remain, giving rise to a draining hæmorrhage which is of the most intractable description. To separate the retained parts by any manual interference is totally out of the question; for the cases to which we now allude occur,

usually, between the second and third months; and the cervix uteri, very soon after the expulsion of the embryo, will not admit more than the point of a finger. Mr. Streeter judiciously recommends us to abstain from using any manual or instrumental force, but prefers (we cannot perceive upon what principle) the continued injection of a stream of *tepid* water. The patient should, of course, keep the recumbent posture, and take small doses of the ergot, with dilute sulphuric acid, henbane, or hop.

For the prevention of any future miscarriage, the author holds it to be essentially necessary to determine the exact condition of the ovum which has been expelled, in order to ascertain whether the process of utero-gestation has failed, because the ovum was itself originally in an imperfect or pathological condition; or because the fœtus having been regularly formed and nourished up to a certain period, has subsequently perished, in consequence of imperfection or disease in the uterine envelopes or placenta. When such an examination shows that the abortion depended on some imperfection of the ovum, the after-treatment required is of the most simple description. When, however, as most commonly happens after the third month, we find effusions of blood, or traces of inflammation in the connecting tissues between the uterus and embryo, an appropriate treatment will be at once called for, and will often have the most beneficial effects.

MICROSCOPICAL SOCIETY OF LONDON.

June 24th, 1840.

Richard Owen, Esq., F.R.S., President.

Some specimens of natural history, from the river Gambia, were presented by Mr. Curtis, to be distributed, as microscopic objects, among the Fellows.

The discussion upon the paper of Mr. Dalrymple on the Closterium, read at the last meeting, was resumed.

Dr. Lindley observed, that as starch is almost invariably found in vegetable substances, except, perhaps, in the microscopic fungi, the absence of this principle in the interior of closteria, as inferred from the experiments with iodine, would go far to prove the animal nature of their bodies. He remembered to have read an elaborate paper on this family, by Morren, in the "Annales des Sciences," of Paris, in which the arguments tended to favour the animal doctrine.

The principal objects exhibited at the conversazione, which closed the meeting, were the circulation in the nitella hyalina, and the circulation in the web of the frog's foot.

NEW REMEDY FOR TETANUS AND OTHER CONVULSIVE DISORDERS.

By W. B. O'Shaughnessy, *M.D., Calcutta.*

The labours of Dr. O'Shaughnessy, as a scientific chemist, are already known in the most favourable manner to our readers; but unlike the greater number of chemists, he combines practice with theory, and directs his scientific discoveries to the advancement of medicine, as a healing art. The following particulars concerning the efficacy of a new remedy for tetanus, discovered by Dr. O'Shaughnessy, are contained in the last number of the "British and Foreign Medical Review."

The narcotic and intoxicating effects of hemp are popularly known in various parts of Asia, Africa, and America, where it is extensively employed in a multitude of affections; but in Western Europe the use of hemp is unknown either as a stimulant or as a remedy, probably because the European hemp does not contain any of the resinous matter upon which its therapeutical properties depend. In warm climates, and during certain seasons, a resinous juice exudes and concretes on the leaves, slender stems, and flowers of the hemp. This resin has a fragrant, narcotic odour; bitter, acrid taste; and, when pure, is of a blackish-grey colour. It is very soluble in alcohol, or fixed oils, and is insoluble in acids.

Having determined, by experiments on carnivorous animals, that the remedy might be administered with safety to the human subject, Dr. O'Shaughnessy proceeded to try its effects in several convulsive diseases. The resinous *extract* which he employed, was obtained by boiling the tops of the dried hemp plant in spirit (sp. gr. 835), until the resin was dissolved, and then evaporating the tincture to dryness. The tincture of hemp was prepared by dissolving three grains of this extract in one drachm of proof spirit. The doses vary according to the disease for the cure of which the remedy may be employed. In cholera, Dr. O'Shaughnessy gives ten drops of the tincture every half hour, until the vomiting and purging are allayed. In cases of tetanus, a drachm of the tincture every half hour, until the paroxysms cease, or catalepsy is induced. In hydrophobia, ten or twenty grains of the

extract to be chewed by the patient, and repeated according to their effect.

The diseases for which the hemp resin has been administered by Dr. O'Shaughnessy, are rheumatism, cholera, hydrophobia, and tetanus. In the two former complaints the trials hitherto made do not lead to any determinate conclusion. In one undoubted case of hydrophobia the effects of the resin are thus graphically described by Dr. O'Shaughnessy:—

"By his own desire water was brought in a metallic vessel, which he grasped and brought near his lips: never can I forget the indescribable horrors of the paroxysm which ensued. It abated in about three minutes, and morbid thirst still goading the unhappy man, he besought his servant to apply a moistened cloth to his lips. Intelligent and brave, he determinately awaited the contact of the cloth, and for a few seconds, though in appalling agony, permitted some drops to trickle on his tongue; but then ensued a second struggle, which, with a due share of the callousness of my profession, I could not stand by to contemplate. Two grains of hemp resin in a soft pillular mass were ordered every hour; after the third dose he stated that he felt commencing intoxication; he now chatted cheerfully on his case, and displayed great intelligence and experience in the treatment of the very disease with which he was visited. He talked calmly of drinking, but said it was in vain to try, but he could suck an orange; this was brought to him, and he succeeded in swallowing the juice without any difficulty. The hemp was continued till the sixth dose, when he fell asleep, and had some hours' rest. Early the ensuing morning, however, Mr. Siddons, my assistant, was called up to him, and found him in a state of tumultuous agony and excitement. The hemp was again repeated, and again by the third dose the cheering alleviation of the previous day was witnessed. He ate a piece of sugar-cane, and again swallowed the juice; he partook freely of some moistened rice, and permitted a purgative enema to be administered. His pulse was nearly natural, the skin natural in every respect. His countenance was happy.

"Four days thus passed away, the doses of hemp being continued. When he fell asleep, on waking the paroxysms returned, but were again almost immediately assuaged as at first. Meanwhile purgative enemata were employed, and he partook freely of solid food, and once drank water without the least suffering. But about three P. M. of the fifth day he sunk into profound stupor, the breathing slightly stertorous; in this state he continued, and without further struggle, death terminated his sufferings at four A. M., on the 27th November."

In several cases of traumatic tetanus the power of the remedy was triumphantly exhibited. In the first case, symptoms of tetanus supervened on the employment of a moxa, for the cure of dysentery. Two days after their appearance the case was considered hopeless, and the extract of hemp was administered, in the dose of two or three grains, every third, and then every second hour. The spasms were speedily mitigated, and ceased altogether in eleven days. The dysentery proved fatal, however, seventeen days afterwards. The other cases are thus alluded to by Dr. O'Shaughnessy:—

"The *second Case* was that of Chunoo Syce, in whom tetanus supervened on the 11th December, after an injury from the kick of a horse. After an ineffectual trial of turpentine and castor oil in large doses, two-grain doses of hemp resin were given on the 26th November. He consumed in all 134 grains of the resin, and left the hospital cured, on the 28th December.

"*Third Case.*—Huroo, a female, ætat. 25, admitted into the Native Hospital, December 16th, had tetanus for the three previous days, the sequel of a cut on the left elbow received a fortnight before. Symptoms violent on admission. Turpentine and castor oil given repeatedly without effect; on the 16th and 17th, three grains of hemp resin were given at bed-time. On the morning of the 18th she was found in a state of complete catalepsy, and remained so until evening, when she became sensible, and a tetanic paroxysm recurred. Hemp resumed, and continued in two-grain doses every fourth hour. From this time till the third hour tetanic symptoms returned. She subsequently took a grain twice daily till the 8th February, when she left the hospital apparently quite well.

"Mr. O'Brien has since used the hemp resin in five cases, of which four were admitted in a perfectly hopeless state. He employed the remedy in *ten grain doses* dissolved in spirit. The effect, he describes as almost immediate relaxation of the muscles and interruption of the convulsive tendency. Of Mr. O'Brien's seven cases, four have recovered.

"In the Police Hospital of Calcutta, the late Dr. Bain has used the remedy in three cases of traumatic tetanus; of these, one has died and two recovered.

"A very remarkable case has recently occurred in the practice of my cousin, Mr. Richard O'Shaughnessy. The patient was a Jew, æt. 30, attacked with tetanus during the progress of a sloughing sore of the scrotum, the sequel of a neglected hydrocele. Three-grain doses were used every second hour, with the effect of inducing intoxication and suspending the symptoms. The patient has recovered perfectly, and now enjoys excellent health."

"The preceding facts (says Dr. O'Shaughnessy) seem unequivocally to show, that when given boldly, and in large doses, the resin of hemp is capable of arresting effectually the progress of this formidable disease, and, in a large proportion of cases, of effecting a perfect cure." We trust that some of our hospital physicians will, without delay, procure the remedy which Dr. O'Shaughnessy has thus favourably introduced, and determine how far it may sustain its reputation as a "powerful anti-convulsive" in this country.—*Abridged from Dr. Forbes' Review, July*, 1840.

APPEAL OF AN OLD PHYSICIAN ON BEHALF OF HIS COLLEGE.

To the Editor of THE LANCET.

SIR:—The Editor of THE LANCET, on various occasions, when medical reform was the subject of his lucubrations, uniformly contended for the "one faculty system"—that there should be but one medical corporation in England, by which all medical men should be examined and admitted, and that its Licentiates should be "general practitioners." But, I am surprised to find it escaped his eagle eye, that such an institution not only, already, existed in this country, but had existed for above three centuries, whose members *alone* possess the legal right of practising *medicine*, *surgery*, and *pharmacy*: for, however, it may surprise some persons, and however unpalatable the statement may prove in certain quarters, it is unquestionable that *the only* "general practitioners," at present established by law, are the Fellows, Licentiates, and Extra-Licentiates of the Royal College of Physicians, London!

The Apothecaries' Company possess merely the power of licensing a person to practise "as an apothecary;" the College of Surgeons can only give authority to practise *surgery*; but, the charter and acts of Parliament have conferred the right of practising *medicine in all its branches*, and *surgery* (32d Henry VIII.), upon all whom the College of Physicians, having examined and approved, shall have granted its license.

"Physicians," says Mr. Willcock,* "are by statute 32 Hen. VIII. allowed to practise physic in all its branches, among which surgery is enumerated: *the law, therefore, permits them both to prescribe and compound* their medicines, and as well to perform as to superintend operations in surgery. These privileges are, also, reserved to them by the statutes and charters relating to the surgeons and apothecaries."

It is evident, therefore, that no new medical institution is required to supply the wants of the public, but merely that the College of Physicians should perform its duty, and honestly act up to the spirit of its constitution, by admitting all duly-qualified persons to practise, according to the provisions of the charter and the statutes, leaving them afterwards totally unrestricted, and at liberty to pursue either one branch of medicine or the other, or all three, according as circumstances may render it expedient; and that the College will shortly, either voluntarily or by compulsion, do this, there appear to be sufficient indications; since the Fellows have, of late, done a great deal towards reforming the College statutes, although they have not carried their reform so far as they are bound to do, or as the interests of the public demand. For example, they have given up many of their illegal by-laws,—even that often contested one, by which admission into the Fellowship was improperly restricted to the Graduates of Oxford and Cambridge, and which has produced endless litigation and expense, even this long-cherished, but unjust and illegal, by-law, they have, at length, surrendered to the force of public opinion; and the Graduates of all Universities are, at present, declared to be eligible (*as by law they always have been*) to the Fellowship. The Fellows have even gone a step further, and now require no medical degree whatever to entitle any one to obtain their licence to practise! They have, also, given up their illegal by-law against its members practising *surgery*; and, moreover, notwithstanding that, only a few years ago, the president, Sir Henry Halford, denounced midwifery, in an official communication, as "an act foreign to the habits of gentlemen of enlarged academical education,"* they have, subsequently, withdrawn their prohibition against midwifery; and, as if to mark their sense of their former injustice, have since admitted a host of practising accoucheurs into the Fellowship!

One more restrictive by-law, with respect to practice (and one only), still lingers on their statute-book; namely, that against *pharmacy*; and this will, ere long, unavoidably share the fate of those before mentioned. For, as the charter and statutes have given the members the privilege of practising pharmacy, the College has no power to prevent them; for "such a by-law would be an innovation, and a restriction of the charter and statutes of incorporation, and *contrary to the constitution of the society*; and *no corporation can make such a by-law*."† The restriction in question, consequently, cannot be enforced against its members, and, therefore, must be repealed: indeed, it is

* Vide "The Laws of the Medical Profession," 8vo, 1830, pp. 30.

* Vide Dr. Ramsbotham's Lectures on Midwifery, "Med. Gaz."

† Vide Willcock, op. cit., p. 49.

doubly imperative on the College to abrogate it without delay, to preserve even the appearance of consistency, since they themselves, only a few years ago, acted in direct opposition to it—doubtless, from a conviction that it was both unjust and illegal—when they elected Dr. Babington,—who, it is well known, had been an *apothecary*,—to be a Fellow of the College; and, as if the Fellows were anxious to perpetuate the remembrance of this act of liberality on their part, and, as a kind of *amende honorable* for their previous injustice, they have placed the bust of the same Dr. Babington,—the first apothecary ever elected a Fellow,—in the College library, in company with Sydenham and Harvey, with Baillie, and, even, Halford!

In conclusion, let me earnestly exhort the Fellows of the College of Physicians to be *seasonably wise*, and, observing the signs of the times, to revert, at once, to their original charter, and boldly execute the duties entrusted to them by the Legislature; or, doubtless, their powers will be transferred (and justly too) to some new and more efficient institution. Let them not re-act the folly of 1815, and quietly stand by while others are usurping their undoubted privileges; but let them rescind their odious restrictions,—restrictions that cannot be enforced,—and admit all who are duly qualified into their several orders of Fellows, Licentiates, and Extra Licentiates, and they will become a really useful and powerful body. The functions of the Apothecaries' Company (excepting as dealers in drugs) will forthwith cease, and the College and the Universities will once more become (as they ought to be) the *sole* licensers of practitioners in physic, of whatever grade, throughout the country; for any one settling in the country has merely to become an Extra-Licentiate of the College, and he will be at once authorised to practise in all the three branches of the profession throughout England (excepting within London and seven miles therefrom); or, if his object be to practise in London, he has only to become a Licentiate of that body; and should he, moreover, choose, at any future period, to obtain a diploma from some university, either British or foreign, he will then, in addition, be eligible to the Fellowship. A great waste of time and money will be obviated by persons taking their licence from the College instead of from the Apothecaries' Company, as they will save the apprentice fee, and the useless drudgery of a five years' apprenticeship; the greater part of which time would be far more profitably employed, both as regards themselves and the public, in preliminary scholastic education; and I feel confident that the rising generation of the profession would much rather submit themselves for examination, and receive their authority to practise from a learned corporation which has existed for centuries, and which can confer extensive privileges upon them, than from a mere *trading company*, which has solely obtained its present more limited powers through the culpable apathy and negligence of the former (and a few of the present) Fellows of the College of Physicians. I have the honour to be, Sir, your obedient servant,

AN OLD PHYSICIAN.

London, June 1st, 1840.

*** This letter comes at the eleventh hour, but we print it. The writer, however, could not have sent it before, with the same grace, for only at the eleventh hour has the College,—not for the public weal, but for its private interests,—the replenishment of its impoverished coffers,—yielded, in any one respect, to the pressure from without. Our correspondent is correct enough in his law of the case; but the College, with all its petty reforms, cannot occupy the position of a REPRESENTATIVE FACULTY OF MEDICINE.

DAPHNE MEZEREON.

REPLY TO DR. SIGMOND.

To the Editor of THE LANCET.

SIR:—As Dr. Sigmond states in THE LANCET of to-day that my remarks on the mezereon are loose and erroneous, and at variance with the knowledge and experience of both the writers and the practitioners of the day, allow me to present a few authorities in support of my assertions.

Is Daphne mezereon indigenous? Dr. Smith, "English Flora." Daphne mezereon in woods, but rare; near Andover, plentifully, Miller; at Luxfield, Suffolk, Mr. Woodward; in Staffordshire, Mr. Pitt, Withering; in Worcestershire, Rev. E. Whitehead; in Berkshire, Professor Williams; in Oxfordshire, Mr. Wheeler and Purton. Dr. A. T. Thomson, "London Dispensatory," 1830: Mezereon grows wild in England. There are plenty of other authorities.

Is Daphne laureola substituted for Daphne mezereon? Dr. Paris's "Pharmacologia:" Daphne laureola is very generally sold for mezereon. Gray's Supplement to the "Pharmacopœia:" Daphne laureola usually sold for mezereon.

Are the properties of the two plants similar? De Candolle writing on the Thymelaceæ, the natural family to which the genus Daphne belongs, has in his celebrated Essay this important passage:—Toutes les Thymelées dont les propriétés sont communes, offrent une grande ressemblance entré elles, leur ecorce est singulièrement caustique, comme on le remarque dans les Daphne mezereum, D. laureola, D. gnidium, D. taron-

taria, et un degré plus faible dans les Daphne Cneorum, D. Altaica, &c.

Alston "Materia Medica." This author mentions three of the Thymelaceæ in the following order:—1, Laureola; 2, Mezereon; 3, Thymelæa. He says, "they are all of a burning hot taste, &c. &c.

"The berries are violent, and dangerous cathartics; every part of these plants is as bad as the berries." I shall make no further remarks on the subject but to say, that I have not hunted up rare books to find authorities, but have just opened a few that I happened to have in my small library, and I now submit what I have written to the candid consideration of Dr. Sigmond and your readers. I am, Sir, yours respectfully,

JOSEPH HOULTON.

London, June 27, 1840.

INQUEST AT ST. BARTHOLOMEW'S HOSPITAL.

To the Editor of THE LANCET.

SIR:—THE LANCET of May 30 contains a letter by a Juror at an inquest, held at St. Bartholomew's Hospital, on the body of John Ryan. Having been present at the inquest, I am induced to make the following statement:—John Ryan, by the mother's evidence, was four years old, and was attended by Dr. Arthur Farre, and Mr. Dodd, the general practitioner alluded to in the Juror's letter. Mr. Dodd, in my opinion, was not loath to inculpate the medical officers of the institution, as he at once said that the child, when he saw it, was salivated. Dr. Arthur Farre's evidence went to prove, that he ordered half a drachm of jalap and calomel, a preparation kept at the Dispensary (the quantity of calomel contained in half a scruple of this preparation is two grains, the remainder jalap), and that he intended it should be divided into three powders, one to be given to John Ryan, one to his brother or sister, and the other to John Ryan, at a stated time; therefore, there were only four grains of calomel ordered for him. The Juror seems inclined to blame the Coroner, saying he was either unable or unwilling to detect what was wrong, taking care not to inculpate himself or any of the other Jurors. He says that they recorded a verdict, "That the prescription was neglectfully compounded, and that the child died from an overdose of mercury." This was delivered in as their verdict, and before it was recorded the Coroner asked them whether he understood them aright. Did they mean to inculpate any of the medical gentlemen? The reply was, unanimous, "Certainly not." The Coroner, also, during the inquiry, asked if the surgeon of the hospital, who attended the child, was there, and did the Jury think it necessary to have his evidence? The Jury expressed no wish to that effect, and the surgeon did not attend. If blame be attached to any one, it is to the Jury, and not to the Coroner, more especially to the Juror who finds fault. I am, Sir, your obedient servant,

ROBERT PARRY.

Mold, Flintshire, June 9, 1840.

*** Whether our correspondent means that the Jury were to blame, if culpable, for their "Certainly not," or the absence of the surgeon, is not clear; but we must remark, that no anonymous remarks on the questions at issue can have room found for them in our pages.

UNPROFESSIONAL CONDUCT.

MR. WILLIAM HENRY SMITH, of 5, Marlborough-place, Walworth, surgeon, applied by letter to Mr. Matthias Rowe, of 24, Woburn-place, Russell-square, surgeon, on the 15th of June last, for an explanation of his proceeding in the following transactions, as described in a statement sent to us by Mr. SMITH:—"About the middle of May last," says Mr. S., "I attended Mrs. L., of Walworth, in her accouchement. Ten days after delivery, in consequence of her inability to suckle her infant, the breasts became inflamed, and, despite usual antiphlogistic treatment, suppurated. I proposed, at the proper stage, to open the abscesses, but the patient, who had *twice before* suffered from the same cause, strongly objected, and preferred waiting for the spontaneous discharge of the pus.

I attended her assiduously, seeing her twice daily, although she was otherwise doing well, and had visited her at eleven, A.M., on Sunday, June 14, when, on returning home from paying some visits, I found that a message had been left at my house from the patient, requesting me to call. I immediately went to her, and, to my astonishment, was informed that a Mr. Rowe had visited her, opened an abscess, and written a prescription, without having referred to me. This gentleman, I was informed, had been sent to the patient by a friend of Mrs. L., whom he was attending, in the neighbourhood, and not by the request of Mrs. L. Deeming this conduct on the part of Mr. Rowe somewhat extraordinary, Mr. Smith wrote to Mr. Rowe as follows, having previously called upon him for an explanation, without finding the intruder at home:—

"Marlborough-place, June 15.

"SIR:—Upon paying a second visit to my patient, Mrs. L., of Walworth, I was greatly surprised to hear, that you, a *perfect stranger to me*, had, during my absence, visited her, and opened an abscess in her breast, and likewise had written a prescription for me to prepare. I had myself two or three times

urged her to submit to that operation, as one which would be productive of immediate relief; but she had an insuperable objection to it, and, seeing that the matter must very speedily make its exit by ulceration, I did not insist upon its being *absolutely* necessary. Your conduct I must designate as being highly unprofessional."

If the statement of Mr. SMITH be correct, he correctly designated the act of Mr. ROWE, and was most inappropriately answered by the following effusion, which could scarcely find a defender in the worst-bred man in the profession:—

"SIR:—When I receive a written apology for your intemperate and ungentlemanly note, I will explain (and not before) why I saw Mrs. L.

"You, Sir, ask for an early reply; here you have it.

"M. ROWE.

"Woburn-place, June 16."

SQUINT-QUACK.

To the Editor of THE LANCET.

SIR:—The inclosed advertisement (No. 2028) appeared in the "Midland Counties' Herald," June 4th. The insertion of such paragraph-advertisements is so common in the provinces, that the writer of this note would be glad to learn your opinion on the subject. Is empiricism from without likely to be attacked with success, whilst there exists so much empiricism from within?

Your obedient servant,

Birmingham, June 30, 1840. ****

"SQUINTING.—This disfigurement is now rendered curable by a simple operation on the muscles of the eye, unattended with danger to that organ; a discovery made by Professor Dieffenbach, of Berlin, who has successfully treated a number of cases. The "Medical Gazette," of the 17th April, gives a description of the same operation, recently performed in this country for the first time with decided success, by Dr. A. Franz, an experienced oculist, a pupil of the above eminent professor, and author of 'A Treatise on the Eye.' "2028."

**** If Dr. FRANZ sent this advertisement to the newspaper, he is A QUACK.

TRADING PHRENOLOGISTS.—In America I find phrenology flourishing in astonishing vigor as a practical art. Wherever I have gone I have found men who call themselves practical phrenologists, exciting a vulgar curiosity concerning the science; examining heads; predicating character; using it, in short, as a species of palmistry, and extracting, as I have been told, large sums of money from the people, by their skill. I have heard these humble practitioners denounced, by educated phrenologists, as the great enemies of the science, as having degraded it, and rendered it disgusting to superior minds. I lament the consequences, but I am disposed to deal charitably with the offenders. *They* did what higher men left undone. They not only boldly proclaimed their own conviction of the truth of phrenology, but they *applied* it, to the best of their ability. If the educated phrenologists will do the same, they will be more successful; and they will wipe away this opprobrium from the science, in the only way in which it can be removed,—by substituting a better practice in its place.—*Dr. Combe at Boston.*

TO CORRESPONDENTS.

Mr. Nasmyth's reply to Mr. Owen has been received, but from press of matter is necessarily deferred until next week.

Communications have been received from *Mr. Southam, Mr. Field, Mr. Wardleworth, Mr. Chippendale, Mr. Arnison, Mr. Barlow, Mr. Muntre, Mr. Clare, Mr. Hytche.*

We have received the letters of *Mr. M'Millan, A Member of the Dublin College, P. Q., Dr. Barnes, &c.*

A review of Dr. Vanheuvel's pamphlet will appear in our next Number.

Mr. Field's interesting case of inverted uterus is in the hands of the printer, and shall be published in an early Number, perhaps in our next.

We should advise *A Constant Reader* to consult some eminent oculist upon his case; it is impossible from mere description to form any opinion upon the nature of his disease. There are several affections of the eyes which give rise to the appearances of which he complains.

Mr. Alfred Owen, Tenterden, Kent.—There can exist no objection to a polite interrogation of the kind described; but it is not consistent with professional etiquette to take any steps for supplanting a brother practitioner in the confidence of his patients, in order to derive a personal benefit by a change of the medical attendant.

Mr. Groves should not regard a newspaper report as necessarily an authentic version of a speech. This error is universally avoided by all those gentlemen who are conversant with the attempts to abridge and interpret remarks made in public assemblies, whose invariable custom it is before making complaints against these remarks, to first inquire whether they have been correctly represented in the journal professing to report them. Into the other points of dispute we need not enter, as Mr. Groves has by this time the satisfaction of knowing that the regulation of vaccination will probably be preserved to the Poor-Law Commissioners.